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June 26, 2002

04-CC-680-38.5/40.1

04-006054

ACIM-680-1(054)N

Addendum No. 2

Dear Contractor:

This addendum is being issued to the contract for construction on State highway in CONTRA COSTA COUNTY IN AND NEAR MARTINEZ FROM 0.5 KM SOUTH OF MOCOCO OVERHEAD TO BENICIA-MARTINEZ BRIDGE AND OVERHEAD.

Submit bids for this work with the understanding and full consideration of this addendum. The revisions declared in this addendum are an essential part of the contract.

Bids for this work will be opened on July 16, 2002.

This addendum is being issued to revise the Project Plans, the Notice to Contractors and Special Provisions and the Proposal and Contract.

Project Plan Sheets 1, 2, 10, 13, 14, 17, 22, 31, 41, 42, 79, 81, 83, 119, 164, 165, 169, 170, 171, 172, 173, 174, 175, 178, 180, 182, 183, 214, 216, 217, 218, 222, 223, 224, 232, 242, 244, 248, 249, 250, 251, 252, 258, 259, 260, 261, 267, 268, 270, 276, 277, 278, 279, 280, 314, 318, 319, 324, 325, 326, 327, 328, 329, 331, 332, 333, 334, 349, 353, 354, 364, 383, 411, 412, and 413, are revised. Half-sized copies of the revised sheets are attached for substitution for the like-numbered sheets.

Project Plan Sheets 56A, 89A, 196A, 196B, 196C, 196D, 196E, 196F, 196G, 231A, 231B, 261A, 430A, 430B, 430C, 430D, 430E, 430F, and 430G are added. Half-sized copies of the added sheets are attached for addition to the project plans.

Project Plan Sheets 32, 33, 34, 35, 36, 37, 38, 39, and 40 are deleted.

In the Notice to Contractors and Special Provisions, the "ENGINEER'S SIGNATURE AND SEAL SHEETS", are added as attached.

In the Special Provisions, Section 5-1.22, "NON-HAZARDOUS AND HAZARDOUS MATERIAL, GENERAL," the following is added to the third paragraph:

"E. Class II material - non-hazardous material that contains petroleum hydrocarbons at concentrations that require handling of the material as a Designated Waste as defined in Section 13173 of the California Water Code. This material is located within the upper 0.6 m of the excavation limits for the connection of sanitary sewer system no. 1 to the existing 914 mm Central Contra Costa Sanitary District's sewer line and the upper 3.0 m of the excavation limits for the jacking pit for sanitary sewer system no. 1 as shown on the plans. This material is unsuitable for reuse within the project limits."

In the Special Provisions, Section 10-1.05, "NON-STORM WATER DISCHARGES," is revised as attached.

In the Special Provisions, Section 10-1.15A, "RELOCATE CATHODIC PROTECTION (RECTIFIER)," is added as attached.

In the Special Provisions, Section 10-1.15B, "SEWER LINE VIDEO SURVEY," is added as attached.

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In the Special Provisions, Section 10-1.33, "EARTHWORK," subsection "NON-HAZARDOUS AND HAZARDOUS MATERIAL EXCAVATION," the following is added to the second paragraph:

"E. Class II material - Haul and dispose of the material at a permitted Class II waste management facility in conformance with Section 20210 of Title 27 of the California Code of Regulations, Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications, and these special provisions."

In the Special Provisions, Section 10-1.33, "EARTHWORK," subsection "NON-HAZARDOUS AND HAZARDOUS MATERIAL EXCAVATION," the following paragraph is added after the eleventh paragraph:

"The contract price paid per cubic meter for sewer excavation (Class II) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in excavating the Class II material, including stockpiling, loading, hauling, and disposing of Class II sewer excavation as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer."

In the Special Provisions, Section 10-1.40, "LIGHTWEIGHT EMBANKMENT MATERIAL (CELLULAR CONCRETE)," in the thirteenth paragraph the first and second sentences are deleted.

In the Special Provisions, Section 10-1.61, "PRECAST PRETENSIONED CONCRETE GIRDERS," is replaced with Section 10-1.61, "PRECAST PRETENSIONED CONCRETE BULB-TEE GIRDERS," as attached.

In the Special Provisions, Section 10-3.17, "CHANGEABLE MESSAGE SIGN STATION," the first paragraph is revised as follows:

" The changeable message sign (CMS) station shall consist of installing the following equipment, as shown on the plans and as directed by the Engineer:

1. Two Model 500 Changeable Message Sign System
2. Two Changeable Message Sign Safety Switch.
3. Two Dial-up Modem."

In the Special Provisions, Section 10-3.23A. "TELEPHONE CABLE," is added as attached.

In the Special Provisions, Section 10-4, "RAILROAD," is deleted.

In the Special Provisions, Section 13, "RAILROAD RELATIONS AND INSURANCE REQUIREMENTS," are revised as attached.

In the Proposal and Contract, the Engineer's Estimate Items 45, 52, 53, 54, 59, 60, 64, 65, 68, 98, 99, 101, 103, 104, 115, 116, 122, 147, 151, 152, 155, 189, 194, 195, 197, 205, 206 are revised, Items 217, 218, 219, 220 are added and Items 158, 190, 216 are deleted as attached.

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To Proposal and Contract book holders:

Replace pages 5, 6, 7, 8, 9, 10, 12, and 13 of the Engineer's Estimate in the Proposal with the attached revised pages 5, 6, 7, 8, 9, 10, 12, and 13 of the Engineer's Estimate. The revised Engineer's Estimate is to be used in the bid.

Attached is a copy of the Material Information, Underground Classification Permit # C234-013-02T.

Indicate receipt of this addendum by filling in the number of this addendum in the space provided on the signature page of the proposal.

Submit bids in the Proposal and Contract book you now possess. Holders who have already mailed their book will be contacted to arrange for the return of their book.

Inform subcontractors and suppliers as necessary.

This office is sending this addendum by UPS overnight mail to Proposal and Contract book holders to ensure that each receives it.

If you are not a Proposal and Contract book holder, but request a book to bid on this project, you must comply with the requirements of this letter before submitting your bid.

Sincerely,

ORIGINAL SIGNED BY : JEFF DEFEVERE FOR

REBECCA D. HARNAGEL, Chief
Office of Plans, Specifications & Estimates
Office Engineer

Attachments

10-1.05 NON-STORM WATER DISCHARGES

Non-storm water discharges shall conform to the requirements in Section 7-1.01G, "Water Pollution" of the Standard Specifications, "Water Pollution Control (Storm Water Pollution Prevention Plan)" of these special provisions, and these special provisions.

Conformance with the requirements of this section shall in no way relieve the Contractor from the Contractor's responsibilities, as provided in Section 7-1.11, "Preservation of Property," and Section 7-1.12, "Responsibility for Damage," of the Standard Specifications.

LAND-BASED EXCAVATION DEWATERING

This work shall consist of dewatering and discharging water from land-based excavations including, but not limited to, excavations for pile caps or footings, piles, storm drainage systems, sanitary sewer systems and their appurtenances. These provisions shall not apply to seepage from seasonal percolation of rainwater at elevations greater than 6.0 m, except that those dewatering operations shall be described in the Dewatering Plan as specified herein. Discharges from elevations greater than 6.0 m shall be performed in conformance with "Water Pollution Control (Storm Water Pollution Prevention Plan)" of these special provisions.

Land-based excavation dewatering shall be performed in conformance with the general waste discharge requirements for Order No. 01-100, NPDES General Permit No. CAG912002, issued by the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) for "Discharge of Treated Groundwater Polluted by Fuel Leaks" and these special provisions. Copies of the permit are available for inspection at the Department of Transportation, Duty Senior's Desk, 111 Grand Avenue, Oakland, California, email; duty_senior_tollbridge_district04@dot.ca.gov, telephone (510) 286-5549 or on the Internet at:

http://www.swrcb.ca.gov/rwqcb2/npdes_gen__permit.htm

The Contractor shall be fully informed of the provisions of the permit and conduct the work accordingly. The Department will submit the Notice of Intent (NOI) and appropriate annual fee to initiate the discharge. The Contractor shall prepare, for inclusion in the NOI, a report certifying the adequacy of each component of the planned treatment facility and an Operation and Maintenance Manual in conformance with Order No. 01-100 and these special provisions. At the option of the Contractor, water removed from the excavation may be hauled off site to an appropriately licensed liquid disposal facility.

The Contractor shall use construction methods that prevent cross-contamination of water-bearing zones caused by the flow of contaminated groundwater into piling excavations including, but not limited to, sheet piling, pipe pile extensions, and temporary casing. If temporary casing is used, the pile or tie down excavation shall be completed using tremie construction as the casing is being removed.

Surface runoff shall not be allowed to enter the excavation. Groundwater contaminated by the Contractor's operations, such as the use of slurry cement to construct cast-in-place piles, shall be treated to meet the permit requirements for discharge or removed from the site to an appropriately licensed liquid disposal facility.

Based on the material type and groundwater gradients within the project limits, it is expected that the groundwater flow rate will be up to 180.0 L/min. The treatment facility shall be designed to accommodate this flow rate. Continuous pumping from well points outside the excavations will not be allowed. A meter that has been approved by the Engineer shall be used to measure all excavation discharges.

Treated groundwater shall be used for dust control up to the extent that sheet flow or ponding becomes imminent. When further use of the treated water as dust control would result in sheet flow or ponding, the water shall be discharged at an approved dedicated discharge point.

Analysis results of grab samples from groundwater within the limits of the project are summarized in the following table:

Groundwater Contaminant Summary						
Sample ID.	BB1-W	BC1-W	BF1-W	NBS-7-W	NBS-11-W	OFR-1-W
Sample Location	Br No. 28-0356R Bent 3	Br No. 28-0356R Bent 4	Br No. 28-0356R Bent 7	CCNB 97+45.3 8.4 Rt.	CCNB 98+08.7 8.4 Rt.	MR 95+49.8 9.4 Rt.
Metals						
Antimony	<0.10	<0.10	0.014	0.006	<0.10	<0.10
Arsenic	0.011	0.030	0.083	0.017	0.012	<0.005
Barium	<0.20	<0.20	1.4	1.0	0.056	3.8
Beryllium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Chromium	<0.003	<0.003	0.014	<0.003	<0.003	<0.003
Cobalt	<0.003	0.009	<0.003	0.041	0.020	0.007
Copper	0.023	0.21	0.062	0.023	0.028	0.020
Lead	0.012	0.020	<0.005	0.019	0.030	0.013
Mercury	<0.004	<0.004	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.005	0.008	0.008	<0.005	0.006	<0.005
Nickel	<0.003	0.006	0.025	0.040	0.040	<0.003
Selenium	<0.005	<0.005	0.009	<0.005	<0.005	<0.005
Silver	0.002	0.003	0.039	0.003	<0.001	0.005
Thallium	<0.10	<0.10	0.014	<0.005	<0.005	<0.005
Vanadium	0.006	0.004	0.028	<0.003	<0.003	<0.003
Zinc	0.11	0.09	0.02	0.011	0.025	0.024
VOCs	ND	ND	ND	ND	ND	ND
SVOCs	ND	ND	ND	ND	ND	ND
TPHg	ND	ND	ND	ND	ND	ND
TPHd	1.1*	<0.25	4.0*	<0.05	<0.05	<0.05
TPHmo	<0.05	2.5	<0.05	1.2	0.7	1.4
Ethylene Dibromide	ND	ND	ND	ND	ND	ND
Cyanide	ND	ND	ND	ND	ND	ND
PH	6.13	6.29	6.53	6.31	6.25	6.23

Notes:

Concentrations are shown in milligrams per liter

* The sample contains hydrocarbons that do not match the diesel pattern.

Abbreviations:

VOCs Volatile Organic Compounds

SVOCs Semi-Volatile Organic Compounds

TPHg Total Petroleum Hydrocarbons as gasoline

TPHd Total Petroleum Hydrocarbons as diesel

TPHmo Total Petroleum Hydrocarbons as motor oil

The Contractor shall submit to the Engineer, as provided in Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications, a Dewatering Plan that includes the following:

- A. Dewatering Operation Description - written description of all dewatering operations that shall include, but is not limited to, start up date of discharge, an estimate of the discharge volume, flow rate, frequency, and maximum capacity of the treatment facility.
- B. Certification of Treatment Facility Design - report describing the adequacy of (1) the process and design of the treatment facility to meet treatment objectives, (2) the startup and operation instruction manuals, (3) the treatment facility maintenance and testing program; and (4) the influent and effluent sampling locations. This certification shall be prepared and signed by an engineer who is registered as a Civil Engineer in the State of California.

- C. Treatment Facility Operation and Maintenance Manual - manual of operation for the treatment facility that describes staffing and training, quality control and assurance, inspection and maintenance, monitoring, records keeping, and preventative and contingency plans for controlling accidental discharges.
- D. Working Drawings - working drawings of dewatering operations showing both a sectional and plan view that details the removal techniques for suspended solids and known or introduced groundwater contaminants. The drawings shall define the flow path and placement of pipes, hoses, pumps, treatment systems, holding tanks, and other equipment used to convey the discharge; the general position of the dewatering measures relative to the excavations undergoing dewatering; and the point of effluent discharge.

The plan shall be submitted 25 working days before beginning dewatering operations for review and approval by the Engineer. Excavation operations that require dewatering will not be allowed until the plan has been approved by the Engineer and the SFRWQCB Executive Officer has authorized the discharge.

Monitoring of discharges shall conform to the requirements of Order No. 01-100, the Self-Monitoring Program included with Order No. 01-100, and these special provisions. The required Start-up Report, Self-Monitoring Reports, Spill Reports, Violation Reports, and letter of transmittal shall be submitted to the Engineer who will forward the information to SFRWQCB. Spills and violations shall be reported to the Engineer within 24 hours of discovery and will be confirmed in writing to the Engineer within 4 working days. All standard observations specified in the Self-Monitoring Program included with Order No. 01-100 shall be recorded in a standard format. After 6 months of monitoring, the Engineer may request that SFRWQCB review the results in order to modify the Self-Monitoring Program for Order No. 01-100 to address only constituents of concern. In the event that a modification is granted, adjustments in compensation for sampling, analysis and reporting will be made in conformance with Section 4-1.03, "Changes," of the Standard Specifications.

For the purposes of the Start-up Report, start-up shall be considered the first use of the system. After that, when a new point of influent having different contaminants or greater concentrations than previously treated is added to the facility, samples shall be collected and analyzed as specified for start-up but a Start-up Report shall not be prepared.

In the event of a violation of the maximum daily limits, an increase in turbidity by more than 10 percent over the present natural background levels, or a variation of natural background pH by more than 0.5 pH units occurs and is confirmed, the discharge activity shall be shutdown and corrective actions shall be taken to modify, repair, or replace the equipment used for the discharge. The resumption of discharge activities shall be allowed upon approval of the corrective measures by the Engineer.

EFFLUENT TREATMENT FACILITY

An effluent treatment facility shall be provided to treat petroleum contaminated water discharged from dewatering operations. Effluent shall be considered as the water and any other material discharged from the dewatering operations.

The Contractor shall use the effluent treatment facility to treat water from excavations before discharging to an approved discharge site in accordance with Order No. 01-100 and these special provisions. Protection shall be provided at the outlet of treated effluent into the receiving water body to ensure that bottom sediments, aquatic vegetation, or surface soils do not become dislodged or disturbed.

Materials shall conform to the provisions in Section 6, "Control of Materials," Section 7-1.16, "Contractor's Responsibility for the Work and Materials," Section 20-5.03E, "Pipe," and Section 74-2, "Drainage Pump Equipment" of the Standard Specifications and these special provisions.

Holding tanks for pretreatment storage shall be transportable and totally enclosed, with a minimum holding capacity sufficient to prevent delay of other work and capable of connecting multiple tanks in series. Holding tanks shall have an inlet and outlet capable of receiving and discharging minimum flows, at a rate sufficient to reach the treatment goals. Holding tanks shall be able to accommodate temporary installation of submersible pumps. All tanks shall remain within the project limits until dewatering operations are no longer necessary as determined by the Engineer.

Granulated activated carbon (GAC) shall be used as the medium to treat groundwater contaminated with petroleum hydrocarbons as noted in the contaminant summary table. The GAC treatment system shall be designed to meet the treatment goals specified in Order No. 01-100. The GAC treatment vessels shall be readily removed and replaced or interchanged when required. The GAC treatment system shall have appropriate fittings for pipe connections designed to accommodate the required flow rate. Throughout the operation, the Contractor shall have one additional GAC vessel available for transport and use at the site within one hour after being directed by the Engineer.

Sampling ports shall be spigots attached to the piping system and capable of obtaining a representative sample of water at locations within the effluent treatment facility where constituent concentrations are needed to ensure compliance with Order 01-100 and to inspect the efficiency of the facility. The effluent treatment facility shall be capable of sustaining temporary fluctuations in water pressure due to monitoring activities.

Pumps shall be capable of being submerged in water and discharging water and other materials including, but not limited to small rocks, gravel, sand and sediments. The submersible pumps shall be capable, at all times, of discharging at a flow rate that will match the flow rate through the GAC vessels. An additional submersible pump shall be provided by the Contractor that is capable of discharging treated effluent from a temporary holding container to the dedicated discharge location.

The Contractor shall be responsible for providing and installing all piping required to circulate the effluent through the treatment facility and all piping required to convey the treated effluent from the temporary holding container to the point of release at the dedicated discharge location.

A holding tank shall be provided between the GAC treatment system outlet and the discharge location with a minimum storage capacity of 1800 L. The holding container shall have an inlet and outlet capable of receiving and discharging minimum flows that can match the flow rate through the GAC vessels. The holding container shall be open to the air and sealed on all sides and the bottom to prevent any leakage.

STOCKPILE DEWATERING

The Contractor shall prevent the flow of water, including groundwater, surface runoff and tidal flow from entering any temporary stockpiles on land.

The Contractor shall depict and describe within the Storm Water Pollution Prevention Plan (SWPPP), as specified in "Water Pollution Control (Storm Water Pollution Prevention Plan)" of these special provisions, the methods and measures that will be used to dewater temporary stockpiles when free liquids are present, to seal the sides and bottom of the temporary stockpiles, and to prevent the flow of water into the stockpiles. Operations producing water will not be permitted until the Engineer has approved the SWPPP or an amendment to the SWPPP for performing this operation.

The Contractor is responsible for all work, records, reports, and costs involved in handling the water. The Contractor shall supply all analytical data, dewatering volume records, and written requests for discharge to the Engineer for approval before discharging any water. The Engineer shall have up to 5 working days for review and approval of discharge. Water that has been in contact with material that contains petroleum hydrocarbons shall be discharged in conformance with the general waste discharge requirements for Order No. 01-100, NPDES General Permit No. CAG912002 issued by the San Francisco Bay Regional Water Quality Control Board for "Discharge Of Treated Groundwater Polluted By Fuel Leaks" and the special provisions for "Land-Based Excavation Dewatering" or removed from the site to an appropriately licensed liquid disposal facility.

INSPECTION

The Contractor shall conduct a daily inspection of the dewatering equipment, when in use, and ensure that all components are functional and routinely maintained to prevent leakage before removal of suspended solids and petroleum hydrocarbons. If any component of the dewatering equipment is damaged so that the performance of the equipment is diminished below allowable operational levels, the dewatering operation shall be discontinued and the component shall be repaired or replaced with substitute equipment.

SPILL CONTINGENCY

The Contractor shall prepare and submit to the Engineer a contingency plan for the management of spills or leaks of any materials or wastes that may impact the water quality of the Carquinez Strait.

The spill contingency plan shall be incorporated within the SWPPP, as specified in "Water Pollution Control (Storm Water Pollution Prevention Plan)" of these special provisions.

The contingency plan shall include instructions and procedures for reporting spills, and a list of spill containment and collection materials and equipment to be maintained onsite. The contingency plan shall be reviewed and updated quarterly.

LIQUIDS, RESIDUES AND DEBRIS

The Contractor shall prevent the discharge of slurries, liquids, residues, or debris produced during the work to storm water facilities or surface waters of the State. The SWPPP shall, at a minimum, depict and describe the procedural and structural methods of detaining, collecting, and disposing of all slurries, liquids, residues, and debris associated with the operations. Sufficient redundancy shall be incorporated into the procedural and structural methods such that the slurries, liquids, residues, and debris are not conveyed into or become present in drainage systems, Carquinez Strait, or other water bodies.

MEASUREMENT AND PAYMENT

The contract lump sum price paid for non-storm water discharges shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in non-storm water discharges, complete in place, as shown on the plans, as specified in the Standard Specifications, and these special provisions, and as directed by the Engineer.

10-1.15A RELOCATE CATHODIC PROTECTION (RECTIFIER)

Existing Central Contra Costa Sanitary District's (CCCSD) Cathodic Protection (Rectifier) shall be removed and relocated to the new location as shown on the plans. The existing cathodic protection connected to the cathodic protection (rectifier) and located on the road shall be removed and disposed of.

CCCSD Cathodic Protection (Rectifier) shall be installed and connected to the existing sewer line at the new location as shown on the plans within the 20 working days of its removal from the original location.

Portland cement concrete shall be minor concrete or maybe produced from commercial quality aggregate and cement containing not less than 350 kg of cement per cubic meter.

Earthwork shall conform to the provisions in Section 19, "Earthwork," of the Standard Specifications and these special provisions.

Steel post, cooper sleeve, epoxy putty dam, and cement mortar maybe commercial quality and suitable for purpose intended.

Relocate Cathodic Protection (Rectifier) will be measured and paid for by the lump sum of cathodic protection (rectifier).

The contract lump sum price paid for Relocate Cathodic Protection (Rectifier) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals (including structure excavation and backfill and welding) for removing, relocating, and connecting the cathodic protection (rectifier) to the existing sewer line as shown on the plans , as specified in these special provisions, and as directed by the Engineer.

10-1.15B- SEWER LINE VIDEO SURVEY

This work shall consist of two video surveys documenting and reporting on the inside structural condition of the existing Contra Costa Sanitary District's (CCCSD) 508 mm high density polyethylene (HDPE) forced sewer pipe (sliplined inside 610 mm RCP) on Waterfront Road at the location shown on the plan. The Contractor shall locate the nearest upstream and downstream CCCSD's manholes outside the limits of surveying to allow video surveying of the completed length of sewer line (manhole no. 8C-M2, approximately 300 meter east of northbound Route 680 Waterfront on ramp; manhole no. 8C7-M3, approximately 131 meter west of northbound Route 680 Waterfront on ramp)

The first video survey shall be performed prior to any roadway excavation on Waterfront Rd.. The second video survey shall be performed after the reconstruction of Waterfront Rd. has been completed. The Contractor shall dewater the sewer line preceding each video survey. Dewatering shall be completed from the existing CCCSD's manhole located south of Waterfront Rd and west of Pey Slough, approximately 300 meter east of the northbound Route 680 Waterfront on ramp. Wastewater from the sewer line shall be pumped into tanker trucks for transport to CCCSD's Junction Structure No. 2, located north of Waterfront Rd. near the west boundary of Acme Landfill, approximately 0.9 km east of northbound Route 680 Waterfront on ramp.

The access to the sewer line for both video surveying and dewatering will require removal of blind flanges at each manhole. All blind flanges shall be reinstalled after the completion of each video survey.

The Contractor shall coordinate sewer line access, dewatering, and video surveying work with CCCSD. The CCCSD requires a minimum of 10 working days notice prior to start of dewatering operation. The Contractor shall notify the Engineer and the CCCSD at least 24 hours in advance of any work on the sewer line. The Engineer and the CCCSD inspector shall be present during dewatering and testing.

The Contractor shall videotape with narration the condition of the sewer line to show any and all structural deficiencies including cracks, holes, damaged joints, deteriorated pipe surfaces, infiltration's, root intrusions and missing pieces. The locations of deficiencies shall be shown by stationing with reference points agreed upon by the Engineer. The Contractor shall provide dimensions of all major structural deficiencies and provide supplemental photographs of such deficiencies when requested by the Engineer.

At least 20 working days prior to investigation, the Contractor shall submit for acceptance 5 copies of the proposed operation including dewatering, operation schedule, and safety procedure to the Engineer. The dewatering plan shall identify the dewatering point(s), discharge point, detail of tank truck to be used, and the operation. The Engineer will either accept or reject such procedure within 10 working days of their receipt. If the plan is rejected, the Contractor shall submit a revised plan for approval. The Engineer and the CCCSD will either accept or reject the revised plan within 10 working days of the receipt.

The procedures shall comply with the following safety provisions.

SAFETY PROCEDURES

Except to the extent that more explicit or more stringent requirements are stated herein, the Contractor shall comply with applicable Federal, State and local safety and health requirements and standards.

Pre-entry and Confined Space Operations - Pre-entry and confined space operations shall be performed in accordance with provisions of Article 108 of the General Industry Safety Orders and Section 1532 of the Construction Safety Orders of Title 8 of California Code of regulations. These provisions shall govern:

1. blocking of laterals;
2. ventilation requirements;
3. entry rate work within confined spaces;
4. other related work.

The Contractor shall provide safeguards, including traffic barriers, warning signs, barricades, temporary fences and other similar safeguards that are required for the protection of all personnel during the performance of the operations.

The Contractor shall provide to all workers and inspectors, eye protection, hardhats and safety tools as required by job conditions and CAL-OSHA.

EQUIPMENT FOR TELEVISIONING

Closed Circuit Television Camera (CCTV) shall have a rotating lens camera with articulating head. Each joint shall be scanned 360 degrees. The CCTV shall be operative in one hundred percent (100%) humidity conditions. Lighting for the CCTV shall minimize relative glare. Lighting and CCTV quality shall be suitable to provide a clear, in focus picture of the entire periphery of pipe for all conditions encountered during the work. Focal distance shall be adjustable through a range from 150 mm to infinity. The remote reading meter counter shall be accurate to one percent (1%) over the length of the particular section being inspected. The CCTV, television monitor and other components of the color video system shall be capable of producing a minimum of 350 line resolution.

TELEVISIONING PROCEDURES

The Contractor shall examine the sewer line to insure the passage of the camera through the line prior to any televisioning.

The camera operator shall slow or stop the camera at potential or actual imperfections in the pipe to obtain a high quality video image.

DOCUMENTATION OF TELEVISIONING

The Contractor shall prepare for the Engineer's approval a written report documenting the results of its investigation. In the report, the Contractor shall place its emphasis on the deficiencies discovered during this investigation.

Four copies of the recorded video tape and four copies of the written report shall be delivered to the Engineer not later than five working days after completion of each investigation. The Engineer will review the recorded tape and written report and notify the Contractor if the recording and the written report are satisfactory.

The video tape(s) shall include the following:

1. Video:

- Report No.
- Date of TV inspection.
- Upstream and downstream access hole or station numbers.
- Current distance along reach (tape counter meter)
- Printed labels on tape container and tape cartridge with location information, date, format, and other descriptive information.

2. Audio:

- Date of TV inspection.
- Confirmation of upstream and downstream access hole or station numbers.
 - Description of pipe size, type and pipe joint length.
 - Description and location of each defect.
 - Description and location of each service connection.

3. Written:

- Date of TV inspection.
- Tape number
- Location, size, type, and length of pipe.
- Direction of flow and measurement ("From" manhole/station number "To" manhole/station number).
- Tape counter numbers (beginning and end).
- Sketch showing the street and cross streets where the TV inspection was made.
- Description and location of each defect.
- Description and location of each service connection.

MEASUREMENT AND PAYMENT

Sewer line video survey will be measured and paid for by the unit. Sewer line video survey of a quality not acceptable to the Engineer will be rejected and paid for at the Contractor's expense. If rejected, the sewer line video surveys shall be redone until it is acceptable by the Engineer.

The contract unit price paid for sewer line video survey shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in conducting the sewer line video surveys, including providing plans, reports and video tapes, safety devices and precautions, work for dewatering, removing and reinstalling blind flanges in the manhole, coordinating with CCCSD, as specified in these special provisions, and as directed by the Engineer.

10-1.61 PRECAST PRETENSIONED CONCRETE BULB-TEE GIRDERS

Precast pretensioned reinforced bulb-tee concrete girders shall conform to the provisions in Section 51, "Concrete Structures," of the Standard Specifications and to these special provisions.

The precast pretensioned concrete bulb-tee girders shall be furnished, placed / erected, spliced and tensioned, in accordance with the details shown on the plans, to produce a continuous post-tensioned member or simple span post-tensioned member.

The cast-in-place prestressed concrete splice segments used to connect the precast pretensioned concrete bulb-tee girders to produce a continuous post-tensioned member or simple span post-tensioned member shall conform to the details shown on the plans, the provisions in "Prestressing Concrete," elsewhere in these special provisions.

In addition to the requirements in Section 50-1.02, "Drawings," of the Standard Specifications, the Contractor shall submit the following working drawings of the prestressing systems proposed for use:

- A. Details showing both the pretensioning and post-tensioning systems in combined working drawings.
- B. Cablepaths for the precast pretensioned concrete bulb-tee girder.

Prestressing working drawings shall include the camber diagram based on the calculations for the predicted deflections of the precast pretensioned concrete bulb-tee girder and the cast-in-place prestressed concrete splice segments. Also the working drawings shall include the resultant camber diagram for the predicted deflections of the continuous post-tensioned of the spliced precast pretensioned concrete bulb-tee girders and the cast-in-place prestressed concrete splice segments as a continuous post-tensioned concrete member or simple span post-tensioned member.

Precast pretensioned concrete bulb-tee girders shall contain post-tensioning ducts, incidental parts, and additional deformed reinforcing steel, as required, for post-tensioning; and formed holes for bar reinforcing steel.

After the precast pretensioned concrete bulb-tee girders are set into their final position, post-tensioning ducts within these girder shall be spliced to post-tensioning ducts located within the cast-in-place splice segments, forming a continuous prestressing system resulting in either a continuous post-tensioned member or simple span post-tensioned member.

Prestressing forces shall not be applied to the precast prestressed spliced concrete member until the concrete compressive strength, as shown on the plans, has been achieved, or at least 10 days since the last concrete has been placed in the member to be stressed and the connecting intermediate diaphragms and bent caps.

PRECAST PRESTRESSED SPLICED CONCRETE BRIDGE MEMBERS

At the Contractor's option splicing the precast pretensioned concrete bulb-tee girders to the cast-in-place splice segments can take place at the ground level or at the final elevation at the bridge permanent supports.

The top surface of the girder segments shall be given a coarse texture by brooming with a stiff bristled broom or by other suitable devices that will result in uniform transverse scoring, in advance of curing operations.

Surfaces noted to be given a coarse broom finish shall be cleaned of surface laitance and curing compound before placing deck concrete. Exposure of clean aggregate will not be required.

The calculated final elevations at top of each precast prestressed spliced concrete bridge member, prior to the time the deck concrete is placed, shall be shown on the working drawings. These final elevations shall be taken at tenth point along the center line of each precast prestressed spliced concrete bridge member. Working drawings shall be in conformance with the provisions in Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications.

The anticipated deflection and method of accommodation of deflection of precast pretensioned concrete bulb-tee girders and for cast-in-place prestressed concrete splice segments, prior to the time the deck concrete is placed, shall be shown on the working drawings in conformance with the provisions in Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications. Revisions in girder blockout elevations shall be shown on the working drawings. The deflection for the various stages of work shall include the following:

- A. Anticipated upward deflection caused by the prestressing forces.

Downward deflection caused by the dead load of the precast pretensioned girder segment alone, and the dead load of the spliced girder, including diaphragms and closure pours.

Deflection caused by the creep and shrinkage of the concrete for the time interval between the stressing of the girders and the planned placement of the deck.

Such deflection shall be substantiated by calculations that consider the ages of the girder concrete at the various times of stressing and the Contractor's planned placement of the deck. All deflection calculations shall be based on the concrete producer's estimate of the modulus of elasticity at the applicable concrete age.

Adjustments to accommodate girder deflections, which occur prior to the time the deck concrete is placed, may include revisions in girder blockout elevations, but any such adjustments shall be limited by the following conditions:

- A. The minimum permanent vertical clearance under the structure as shown on the plans shall not be reduced.
- B. The profile grade and cross slope of the deck shall not be changed.
- C. A minimum of 25 mm of deck slab concrete between the top of the precast spliced girders and the deck slab reinforcement shall be maintained.

Girders with unanticipated girder deflection and which cannot comply with conditions A, B, and C will be rejected in conformance with the provisions in Section 6-1.04, "Defective Materials," of the Standard Specifications.

Adjustments to accommodate girder deflections will not be considered a change in dimensions. Full compensation for increases in the cost of construction, including increases in the quantity of deck or girder blockout concrete, resulting from adjustments to accommodate girder deflections shall be considered as included in the contract price paid for the various items of work involved and no additional compensation will be allowed therefor.

Temporary lateral bracing shall be provided for the girder segments. The bracing shall be installed at locations shown on the approved working drawings, prior to the release of the erection equipment from the girder segments and shall remain in place for the period of time shown on the drawings. The bracing shall be adequate to prevent overturning of the girder segments prior to completion of the work and as a minimum shall be capable of resisting a minimum lateral force of 720 Pa of girder side area applied laterally in either direction to the top of the girder. Girder segment erection shall not be started until the temporary supports and the temporary lateral bracing proposed for use by the Contractor has been approved by the Engineer.

TEMPORARY GIRDER SEGMENT SUPPORTS AND TEMPORARY LATERAL BRACING

Temporary Supports For Precast Prestressed Spliced Concrete Bridge Members:

Temporary supports for precast prestressed spliced concrete bridge members shall be designed constructed and removed in conformance with the provisions in Section 51-1.06, "Falsework," of the Standard Specifications and these special provisions.

Temporary supports for precast prestressed spliced concrete bridge members shall be placed parallel to the bents.

The temporary supports shall conform to the provisions in Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications. The number of sets of drawings and design calculations for the temporary supports for precast prestressed spliced concrete bridge members shall be the same as specified for falsework working drawings in Section 51-1.06A, "Falsework Design and Drawings," of the Standard Specifications.

Temporary supports for precast prestressed spliced concrete bridge members shall support the weight of the spliced members and all loads imposed as permanent or temporary loads on the temporary supports system. The vertical design loads shall be adjusted for the weight of the temporary supports and jacks, construction equipment loads and any additional loads imposed by the Contractor's operations.

The time to be provided for the Engineer's review of the working drawings for temporary supports and temporary lateral bracing of the precast prestressed spliced concrete bridge members shall be 4 weeks.

Prior to proceeding with erection of the precast prestressed spliced concrete bridge members, an engineer for the Contractor who is registered as a Civil Engineer in the State of California shall inspect the temporary supports for precast prestressed spliced concrete bridge members for conformity with the working drawings. The Contractor's registered engineer shall certify in writing that the temporary supports substantially conform to the details on the working drawings, and that the material and workmanship are satisfactory for the purpose intended. A copy of this certification shall be available at the site of the work at all times.

Girder Segments Lifting Plan.--The Contractor shall submit to the Engineer a complete girder segments lifting plan. Lifting, Plan shall include procedures and sequence for hauling and unloading the precast pretensioned concrete bulb-tee girders in to the job site and also shall include the procedures and sequence for erecting the girder segments, in a safe and controlled manner, onto the temporary supports or the bridge permanent supports.

The girder segments lifting plan shall conform to the provisions in Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications. The number of sets of drawings and design calculations for any girder segment lifting shall be the same as specified for falsework working drawings in Section 51-1.06A, "Falsework Design and Drawings," of the Standard Specifications.

The time to be provided for the Engineer's review of the working drawings for girder segments lifting plan shall be 5 weeks.

The girder segments lifting plan shall be furnished for the various stages of bridge construction.. Construction methods and equipment employed by the Contractor shall conform to the provisions in Section 7-1.02, "Load Limitations," of the Standard Specifications. The girder segments lifting plan shall include the following:

- The girder segments unloading, lifting, and erecting sequence for each span of the bridge;
- Actual anticipated loads and wheel spacing of the various equipment to haul, unload, lift and erect girder segments;
- Maximum calculated stresses for each proposed location of lifting onto the bridge with a backup calculations;
- Layouts of equipment positions in relationship to existing bridge(s) and the new bridge during each lift-and-erect operation along the entire length of the bridge.
- Methods to grade, align and secure girder segments horizontally and vertically prior to the placement of the girder closure pours.

The girder segments lifting operations shall be conducted in such a manner that all the girder segments once erected remains in a stable condition at all times.

At a bridge site where a girder segments lifting plan is required, the Contractor's registered civil engineer shall be present at all times when girder segments lifting operations are in progress. The Contractor's registered engineer shall inspect the girder segments lifting operation and report in writing on a daily basis the progress of the operation and the status of the remaining structure. A copy of the daily report shall be available at the site of the work at all times. Should an unplanned event occur, the Contractor's registered civil engineer shall submit immediately to the Engineer for approval, the procedure of operation proposed to correct or remedy the occurrence.

Full compensation for the design and compliance of the Contractor with the approved girder segments lifting plan shall be considered as included in the contract unit price paid for erect precast pretensioned concrete bulb-tee girder segment and no additional compensation will be allowed therefor.

10-3.23A TELEPHONE CABLE

The telephone cable (TC) shall consist of 6 pairs of No. 19 solid copper conductors. Conductors shall be twisted in pairs. Each conductor shall be insulated with a high molecular weight, heat stabilized, color coded polyethylene material. The insulation shall be 440 µm nominal.

Color code for TC cable shall be as follows:

1. White/Blue
2. White/Orange
3. White/Green
4. White/Brown
5. White/Gray
6. Red/Blue

The core shall be protected by a non-hygroscopic polyester film with a single longitudinally applied 120 µm thick corrugated copper shield (or 190 µm thick plastic coated aluminum shield). A moisture barrier of petrolatum-polyethylene compound shall be applied over the core tape and over and under the cable shield to fill all cable interstices.

The cable shall be provided with an outer jacket of extruded, black, high molecular weight, heat stabilized polyethylene material. The outer jacket shall have a thickness of 1.5 mm nominal. The outer diameter of the cable shall be 15.25 mm maximum.

Splices will not be allowed, except where shown on the plans.

All conductors shall be terminated inside the telephone demarcation cabinet and the controller cabinet as shown on the plans. All connections from the TBO terminal block to the 8-position connecting block shall be via a cable consisting of 2 pairs of No. 22 solid conductors and shall meet the same specifications as the TC cable.

SECTION 13: RAILROAD RELATIONS AND INSURANCE REQUIREMENTS

13-1: RELATIONS WITH RAILROAD COMPANY

13-1.01 GENERAL

The term "Railroad" shall mean the Union Pacific Railroad Company (UPRR).

It is expected that the Railroad will cooperate with the Contractor to the end that the work may be handled in an efficient manner. However, except for the additional compensation provided for hereinafter for delays in completion of specific unit of work to be performed by the Railroad, and except as provided in Public Contracts Code Section 7102, the Contractor shall have no claim for damages, extension of time, or extra compensation in the event his work is held up by work performed by the Railroad.

The Contractor must understand the Contractor's right to enter Railroad's property is subject to the absolute right of Railroad to cause the Contractor's work on Railroad's property to cease if, in the opinion of Railroad, Contractor's activities create a hazard to Railroad's property, employees, and operations.

The Contractor acknowledges its receipt from the State of a copy of the "Caltrans Right of Entry Agreement" that the State and Railroad have executed. The Contractor agrees to execute and deliver to Railroad the "Contractor's Endorsement" that is made a part of the Caltrans Right of Entry Agreement and to provide to Caltrans and/or Railroad all insurance policies, binders, certificates or endorsements that are set forth in Exhibit A-1 of the Caltrans Right of Entry Agreement.

13-1.02 RAILROAD REQUIREMENTS

The Contractor shall notify Mr. Patrick Kerr, Manager Industry and Public Projects, 10031 Foothills Blvd., Roseville, CA 95678, (Telephone (916) 789-6334, FAX (916)789-6333) and the Engineer, in writing, at least 10 working days before performing any work on, or adjacent to the property or tracks of the Railroad.

Due to the frequency and uncertainty of train schedule, only a three-hour window for railroad closure during Sunday night is available for the construction. In the event the closure of the Railroad Line is absolutely necessary, the Contractor will request the Engineer to have the Railroad Line closed. The Railroad line may only be closed for a maximum of three hours. The closure window of three hours shall be provided by the Railroad at the time of the request. The Contractor shall submit a closure schedule to the Railroad and the Engineer at least six (6) weeks prior to begin closure works for review and approval. Additional closure may be available, however no additional closure will be allowed without prior approval from the Railroad. It is the Contractor's responsibility to contact the following railroad companies to arrange the exact time for construction activities: Union Pacific Railroad Company at (510) 891-7863 for freight trains, Amtrak at (916) 444-0250 for passenger trains and Rhodia Corporation, at (925) 313-8256 for Rhodia train on the spur tracks."

The Contractor shall cooperate with the Railroad where work is over or under the tracks, or within the limits of Railroad property, to expedite the work and avoid interference with the operation of railroad equipment.

The Contractor shall comply with the rules and regulations of Railroad or the instructions of its representatives in relation to protecting the tracks and property of Railroad and the traffic moving on such tracks, as well as the wires, signals and other property of Railroad, its tenants or licensees, at and in the vicinity of the work during the period of construction.

The Contractor shall perform work to not endanger or interfere with the safe operation of the tracks and property of Railroad and traffic moving on such tracks, as well as wires, signals and other property of Railroad, its tenants or licensees, at or in the vicinity of the work.

The Contractor shall take protective measures to keep railroad facilities, including track ballast, free of sand or debris resulting from his operations. Damage to railroad facilities resulting from Contractor's operations will be repaired or replaced by Railroad and the cost of such repairs or replacement shall be deducted from the Contractor's progress and final pay estimates.

The Contractor shall contact the Railroad's "Call Before You Dig" at least 48 hours prior to commencing work, at Telephone: (800)-336-9193 (a 24 hour number) to determine location of fiber optics. If a telecommunications system is buried anywhere on or near railroad property, the Contractor will coordinate with the Railroad and the Telecommunication Company(ies) to arrange for relocation or other protection of the system prior to beginning any work on or near Railroad Property.

The Contractor shall not pile or store any materials nor park any equipment closer than 25'-0" to the centerline of the nearest track, unless directed by Railroad's representative.

The Contractor shall also abide by the following temporary clearances during the course of construction:

3.66 meters (12'-0") horizontally from centerline of track

6.40 meters (21'-0") vertically above top of rail

The temporary vertical construction clearance above provided will not be permitted until authorized by the Public Utilities Commission. It is anticipated that authorization will be received not later than 15 days after the approval of the contract by the Attorney General. In the event authorization is not received by the time specified, and, if in the opinion of the Engineer, the Contractor's operations are delayed or interfered with by reason of authorization not being received by the said time, the State will compensate the Contractor for such delay to the extent provided in Section 8-1.09, "Right of Way Delays," of the Standard Specifications and not otherwise.

Walkways with railing shall be constructed by Contractor over open excavation areas when in close proximity of tracks, and railings shall not be closer than 8'-6" horizontally from centerline of the nearest track, if tangent, or 9'-6" if curved.

Infringement on the above temporary construction clearances by the Contractor's operations shall be submitted to the Railroad by the Engineer, and shall not be undertaken until approved by the Railroad, and until the Engineer has obtained any necessary authorization from any governmental body or bodies having jurisdiction thereover. No extension of time or extra compensation will be allowed in the event the Contractor's work is delayed pending Railroad approval and governmental authorization.

When the temporary vertical clearance is less than 22'-6" above top of rail, Railroad shall have the option of installing tell-tales or other protective devices Railroad deems necessary for protection of Railroad trainmen or rail traffic.

The Contractor shall submit to Railroad for approval through the Engineer the design and calculation for excavation, shoring, and jacking for sewer line crossing the tracks near MO Line Sta. 10+20, as shown on the plans.

Four sets of plans, in 11" x 17" format, and two sets of calculations showing details of construction affecting the Railroad's tracks and property not included in the contract plans, including but not limited to shoring and falsework, shall be submitted to the Engineer for review prior to submittal to Railroad for final approval. Falsework shall comply with UPRR guidelines. Demolition of existing structures shall comply with UPRR guidelines. Shoring shall be designed in accordance with UPRR's shoring requirement of Drawing No. 106613 and guidelines for shoring and falsework, the latest edition issued by the Railroad's Office of Chief Engineer. All plans and calculations shall be prepared and signed by a professional civil engineer registered in the State of California. The review and approval by Railroad may take up to 6 weeks after receipt of necessary information. No work shall be undertaken until such time as the Railroad has given such approval.

The Contractor shall notify the Engineer in writing, at least 25 calendar days but not more than 40 days in advance of the starting date of installing temporary work with less than permanent clearance at each structure site. The Contractor shall not be permitted to proceed with work across railroad tracks until this requirement has been met. No extension of time or extra compensation will be allowed if the Contractor's work is delayed due to failure to comply with the requirements in this paragraph.

Private crossings at grade over tracks of Railroad for the purpose of hauling earth, rock, paving or other materials will not be permitted. If the Contractor, for the purpose of constructing highway-railway grade separation structures, including construction ramps thereto, desires to move equipment or materials across Railroad's tracks, the Contractor shall first obtain permission from Railroad. Should Railroad approve the crossing, the Contractor shall execute a private crossing agreement. By this agreement, the Contractor shall bear the cost of the crossing surface, with warning devices that might be required. The Contractor shall furnish the Contractor's own employees as flagmen to control movements of vehicles on the private roadway and shall prevent the use of such roadway by unauthorized persons and vehicles.

Blasting will be permitted only when approved by the Railroad.

The Contractor shall, upon completion of the work covered by this contract to be performed by Contractor upon the premises or over or beneath the tracks of Railroad, promptly remove from the premises of Railroad, Contractor's tools, implements and other materials, whether brought upon said premises and cause said premises to be left in a clean and presentable condition.

Under track pipeline installations shall be constructed in accordance with Railroad's current standards which may be obtained from Railroad. The general guidelines are as follows:

Edges of jacking or boring pit excavations shall be a minimum of 6.10 meters (20 feet) from the centerline of the nearest track except the jacking pit located near the MO line Sta. 10+35.00, which shall maintain the minimum 3.66 meters (12 feet) from centerline of the nearest tracks.

If the pipe to be installed under the track is 4 inches in diameter or less, the top of the pipe shall be at least 42 inches below base of rail.

If the pipe diameter is greater than 4 inches in diameter, it shall be encased and the top of the steel pipe casing shall be at least 66 inches below base of rail.

Installation of pipe or conduit under Railroad's tracks shall be done by dry bore and jack method.

Hydraulic jacking or boring will not be permitted.

13-1.03 PROTECTION OF RAILROAD FACILITIES

Upon advance notification of not less than 10 working days by the Contractor, Railroad representatives, conductors, flagmen or watchmen will be provided by Railroad to protect its facilities, property and movements of its trains or engines. Notice shall be made to Mr. Patrick Kerr, of Railroad at, Telephone (916) 789-6334,. At the time of notification, the Contractor shall provide Railroad with a schedule of dates that flagging services will be needed, as well as times, if outside normal working hours. Subsequent deviation from the schedule shall require 10 working days advance notice from the first affected date. The Railroad will furnish such personnel or other protective devices:

- (a) When equipment is standing or being operated within 25 feet, measured horizontally, from centerline of any track on which trains may operate, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.
- (b) For any excavation below elevation of track subgrade if, in the opinion of Railroad's representative, track or other Railroad facilities may be subject to settlement or movement.
- (c) During any clearing, grubbing, grading or blasting in proximity to Railroad which, in the opinion of Railroad's representative, may endanger Railroad facilities or operations.
- (d) During any of Contractor's operations when, in the opinion of Railroad's representatives, Railroad facilities, including, but not limited to, tracks, buildings, signals, wire lines or pipe lines, may be endangered.

The cost of flagging and inspection provided by Railroad during the period of constructing that portion of the project located on or near Railroad property, as deemed necessary for the protection of Railroad's facilities and trains, will be borne by the State for a period of 300 working days beginning on the date work commences on or near property of Railroad. The Contractor shall pay to the State liquidated damages in the sum of \$500 per day for each day in excess of the above 300 working days the Contractor works on or near Railroad property, and which requires flagging protection of Railroad's facilities and trains.

13-1.04 WORK BY RAILROAD

Railroad will furnish or cause to be furnished as necessary due to construction, labor materials, tools and equipment to perform certain works including relocation of telephone, telegraphy and signal lines and appurtenances and will perform any other work in connection therewith.

The following work by Railroad will be performed by Railroad forces and is not a part of the work under this contract.

- (a) The Railroad will perform preliminary engineering inspection and flagging as specified in Section 13-1.03, "Protection of Railroad Facilities," of these special provisions.
- (b) The Railroad will review and approve plans for excavation, shoring, and jacking, and provide construction inspection for sewer line undercrossing the tracks near MO Line Sta. 10+20, as shown on the plans.

13-1.05 DELAYS DUE TO WORK BY RAILROAD

No delay due to work by the Railroad is anticipated.

If delays due to work by the Railroad occur, and the Contractor sustains loss which, in the opinion of the Engineer, could not have been avoided by the judicious handling of forces, equipment and plant, the amount of said loss shall be determined as provided in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

If a delay due to work by Railroad occurs, an extension of time determined pursuant to the provisions in Section 8-1.07, "Liquidated Damages," of the Standard Specifications will be granted.

13-1.06 LEGAL RELATIONS

The provisions of Section 13-1, "Relations with Railroad Company," and the provisions of Section 13-2, "Railroad Protective Insurance," of these special provisions shall inure directly to the benefit of Railroad.

13-2 RAILROAD PROTECTIVE INSURANCE

The term "Railroad" shall mean the Union Pacific Railroad Company.

In addition to any other form of insurance or bonds required under the terms of the contract and specifications, the Contractor will be required to carry insurance of the kinds and in the amounts hereinafter specified.

Such insurance shall be approved by the Railroad before any work is performed on Railroad's property and shall be carried until all work required to be performed on or adjacent to the Railroad's property under the terms of the contract is satisfactorily completed as determined by the Engineer, and thereafter until all tools, equipment and materials have been removed from Railroad's property and such property is left in a clean and presentable condition.

The insurance coverage to be obtained by Contractor is set forth in Exhibit A-1 of the Caltrans Right of Entry Agreement. All insurance correspondence, policies, binders, certificates or endorsements shall be sent to the Railroad representative named in Article 6 of the Caltrans Right of Entry Agreement. If there is any conflict between the insurance provisions contained in Exhibit A-1 of the Caltrans Right of Entry Agreement and those contained in this Exhibit C, the insurance provisions contained in the Caltrans Right of Entry Agreement shall govern.

Full compensation for all premiums which the Contractor is required to pay on all the insurance described hereinafter shall be considered as included in the prices paid for the various items of work to be performed under the contract, and no additional allowance will be made therefor or for additional premiums which may be required by extensions of the policies of insurance.

The approximate ratio of the estimated cost of the work over or under or within 50 feet of Railroad's tracks to the total estimated cost is 0.10. Approximate daily train traffic is 8 passenger trains and 6 freight trains on Union Pacific Railroad tracks and 1 freight train on Rhodia Company spur track.

**1. Contractor's Public Liability and Property
Damage Liability Insurance**

The Contractor shall, with respect to the operations he performs within or adjacent to Railroad's property, carry regular Contractor's Public Liability and Property Damage Liability Insurance providing for the same limits as specified for Railroad's Protective Public Liability and Property Damage Liability insurance to be furnished for and in behalf of Railroad as hereinafter provided.

If any part of the work within or adjacent to Railroad's property is subcontracted, the Contractor in addition to carrying the above insurance shall provide the above insurance on behalf of the subcontractors to cover their operations.

**2. Contractor's Protective Public Liability and Property
Damage Liability Insurance.**

The Contractor shall, with respect to the operations performed for him by subcontractors who do work within or adjacent to Railroad's property, carry in his own behalf regular Contractor's Protective Public Liability and Property Damage Liability Insurance providing for the same limits as specified for Railroad's Protective Public Liability and Property Damage Liability Insurance to be furnished for and on behalf of Railroad as hereinafter provided.

**3. Railroad's Protective Public Liability and Property
Damage Liability Insurance**

The Contractor shall, with respect to the operations he performs within or adjacent to Railroad's property or that of any of his subcontractors who do work within or adjacent to Railroad's property perform, have issued and furnished in favor of Railroad, Policy or policies of insurance in the Railroad Protective Liability Form as hereinafter specified.

Railroad Protective Liability Form

(Name of Insurance Company)

DECLARATIONS

Item 1. Named Insured:

Union Pacific Railroad Company
1416 Dodge Street - Mail Code 10049
Omaha, Nebraska 68179

Item 2. Policy Period: From _____ to _____ 12:01 a.m., Standard Time, at the designated job site as stated herein.

Item 3. The insurance afforded is only with respect to such of the following coverage's as are indicated in Item 6 by specific premium charge or charges. The limit of the company's liability against such coverage or coverage's shall be as stated herein, subject to all the terms of this policy having reference thereto.

Coverage's		Limits of Liability	
		Each Occurrence	Aggregate
A	Bodily Injury Liability	\$2,000,000	
B	Property Damage Liability	Combined	\$6,000,000 for
&	and Physical Damage to	Single	Coverage's
C	Property	Limit	A, B & C

Item 4. Name and Address of Contractor:

Item 5. Name and Address of Governmental Authority for whom the work by the Contractor is being performed: State of California, acting by and through its Department of Transportation, Division of Engineering Services, Railroad Agreements Branch, MS # 9-2/9G, P.O. Box 942874, Sacramento, California 94274-0001

Item 6. Designation of the Job Site and Description of Work:

FOR CONSTRUCTION ON

Premium Bases	Rates per \$100 of Cost		Advance Premiums	
	Coverage A	Coverage's B & C	Coverage A	Coverage's B & C
Contract Cost	\$	\$	\$	\$
Rental Cost	\$	\$	\$	\$

Countersigned _____, 20____ by _____

Title

POLICY

(Name of Insurance Company)

A _____ insurance company, herein called the company, agrees with the insured, named in the declarations made a part hereof, in consideration of the payment of the premium and in reliance upon the statements in the declaration made by the named insured and subject to all of the terms of this policy:

INSURING AGREEMENTS

I. Coverage A--Bodily Injury Liability.

To pay on behalf of the insured all sums which the insured shall become legally obligated to pay as damages because of bodily injury, sickness, or disease, including death at any time resulting there from, hereinafter called "bodily injury," either (1) sustained by any person arising out of acts or omissions at the designated job site which are related to or are in connection with the work described in Item 6 of the declarations, or (2) sustained at the designated job site by the Contractor or any employee of the Contractor, or by any employee of the Governmental Authority specified in Item 5 of the Declarations, or by any designated employee of the insured whether or not arising out of such acts or omissions.

Coverage B--Property Damage Liability.

To pay on behalf of the insured all sums which the insured shall become legally obligated to pay as damages because of physical injury to or destruction of property, including loss of use of any property due to such injury or destruction, hereinafter called "property damage," arising out of acts or omissions at the designated job site which are related to or are in connection with the work described in Item 6 of the declarations.

Coverage C--Physical Damage to Property.

To pay for direct and accidental loss of or damage to rolling stock and their contents, mechanical construction equipment, or motive power equipment, hereinafter called "loss," arising out of acts or omissions at the designated job site which are related to or are in connection with the work described in Item 6 of the declarations; provided such property is owned by the named insured or is leased or entrusted to the named insured under a lease or trust agreement.

II. Definitions.

- (a) **Insured.**--The unqualified word "insured" includes the named insured and also includes any executive officer, director or stockholder thereof while acting within the scope of his duties as such.
- (b) **Contractor.**--The word "contractor" means the Contractor designated in Item 4 of the declarations and includes all subcontractors of said Contractor but shall not include the named insured.
- (c) **Designated employee of the insured.**--The words "designated employee of the insured" mean:
 - (1) any supervisory employee of the insured at the job site,
 - (2) any employee of the insured while operating, attached to or engaged on work trains or other railroad equipment at the job site which are assigned exclusively to the Contractor, or
 - (3) any employee of the insured not within (1) or (2) who is specifically loaned or assigned to the work of the Contractor for prevention of accidents or protection of property, the cost of whose services is borne specifically by the Contractor or by government authority.

- (d) **Contract.**--The word "contract" means any contract or agreement to carry a person or property for a consideration or any lease, trust or interchange contract or agreement respecting motive power, rolling stock or mechanical construction equipment.

III. Defense, Settlement, Supplementary Payments.

With respect to such insurance as is afforded by this policy under Coverage's A and B, the company shall:

- (a) defend any suit against the insured alleging such bodily injury or property damage and seeking damages which are payable under the terms of this policy, even if any of the allegations of the suit are groundless, false or fraudulent; but the company may make such investigation and settlement of any claim or suit as it deems expedient;
- (b) pay, in addition to the applicable limits of liability:
 - (1) all expenses incurred by the company, all costs taxed against the insured in any such suit and all interest on the entire amount of any judgment therein which accrues after entry of the judgment and before the company has paid or tendered or deposited in court that part of the judgment which does not exceed the limit of the company's liability thereon;
 - (2) Premiums on appeal bonds required in any such suit, premiums on bonds to release attachments for an amount not in excess of the applicable limit of liability of this policy, but without obligation to apply for or furnish any such bonds;
 - (3) expenses incurred by the insured for such immediate medical and surgical relief to others as shall be imperative at the time of the occurrence;
 - (4) all reasonable expenses, other than loss of earnings, incurred by the insured at the company's request.

IV. Policy Period, Territory.

This policy applies only to occurrences and losses during the policy period and within the United States of America, its territories or possessions, or Canada.

EXCLUSIONS

This policy does not apply:

- (a) to liability assumed by the insured under any contract or agreement except a contract as defined herein;
- (b) to bodily injury or property damage caused intentionally by or at the direction of the insured;
- (c) to bodily injury, property damage or loss which occurs after notification to the named insured of the acceptance of the work by the governmental authority, other than bodily injury, property damage or loss resulting from the existence or removal of tools, uninstalled equipment and abandoned or unused materials;
- (d) under Coverage's A(1), B and C, to bodily injury, property damage or loss, the sole proximate cause of which is an act or omission of any insured other than acts or omissions of any designated employee of any insured;
- (e) under Coverage A, to any obligation for which the insured or any carrier as his insurer may be held liable under any workmen's compensation, unemployment compensation or disability benefits law, or under any similar law; provided that the Federal Employers' Liability Act, U.S. Code (1946), Title 45, Sections 51-60, as amended, shall for the purposes of this insurance be deemed not to be any similar law;
- (f) under Coverage B, to injury to or destruction of property (1) owned by the named insured or (2) leased or entrusted to the named insured under a lease or trust agreement.
- (g) 1. Under any liability coverage, to injury, sickness, disease, death or destruction
 - (a) with respect to which an insured under the policy is also an insured under a nuclear energy liability policy issued by Nuclear Energy Liability Insurance Association, Mutual Atomic Energy Liability Underwriters or Nuclear Insurance Association of Canada, or would be an insured under any such policy but for its termination upon exhaustion of its limit of liability; or
 - (b) resulting from the hazardous properties of nuclear material and with respect to which (1) any person or organization is required to maintain financial protection pursuant to the Atomic Energy Act of 1954, or any law amendatory thereof, or (2) the insured is, or had this policy not been issued would be, entitled to indemnity from the United States of America, or any agency thereof, under any agreement entered into by the United States of America, or any agency thereof, with any person or organization.
- 2. Under any medical payments coverage, or under any Supplementary Payments provision relating to immediate medical or surgical relief, to expenses incurred with respect to bodily injury, sickness, disease or death resulting from the hazardous properties of nuclear material and arising out of the operation of a nuclear facility by any person or organization.

3. Under any liability coverage, to injury, sickness, disease, death or destruction resulting from the hazardous properties of nuclear material, if

(a) the nuclear material (1) is at any nuclear facility owned by, or operated by or on behalf of, an insured or (2) has been discharged or dispersed there from;

(b) the nuclear material is contained in spent fuel or waste at any time possessed, handled, used, processed, stored, transported or disposed of by or on behalf of an insured; or

(c) the injury, sickness, disease, death or destruction arises out of the furnishing by an insured of services, materials, parts or equipment in connection with the planning, construction, maintenance, operation or use of any nuclear facility, but if such facility is located within the United States of America, its territories or possessions or Canada, this exclusion (c) applies only to injury to or destruction of property at such nuclear facility.

4. As used in this exclusion:

"hazardous properties" include radioactive, toxic or explosive properties;

"nuclear material" means source material, special nuclear material or byproduct material;

"source material", "special nuclear material", and "byproduct material" have the meanings given them in the Atomic Energy Act of 1954 or in any law amendatory thereof;

"spent fuel" means any fuel element or fuel component, solid or liquid, which has been used or exposed to radiation in a nuclear reactor;

"waste" means any waste material (1) containing byproduct material and (2) resulting from the operation by any person or organization of any nuclear facility included within the definition of nuclear facility under paragraph (a) or (b) thereof;

"nuclear facility" means

(a) any nuclear reactor,

(b) any equipment or device designed or used for (1) separating the isotopes of uranium or plutonium, (2) processing or utilizing spent fuel, or (3) handling, processing or packaging waste,

(c) any equipment or device used for the processing, fabricating or alloying of special nuclear material if at any time the total amount of such material in the custody of the insured at the premises where such equipment or device is located consists of or contains more than 25 grams of plutonium or uranium 233 or any combination thereof, or more than 250 grams of uranium 235,

(d) any structure, basin, excavation, premises or place prepared or used for the storage or disposal of waste, and includes the site on which any of the foregoing is located, all operations conducted on such site and all premises used for such operations;

"nuclear reactor" means any apparatus designed or used to sustain nuclear fission in a self-supporting chain reaction or to contain a critical mass of fissionable material;

with respect to injury to or destruction of property, the word "injury" or "destruction" includes all forms of radioactive contamination of property.

- (h) under Coverage C, to loss due to nuclear reaction, nuclear radiation or radioactive contamination, or to any act or condition incident to any of the foregoing.

CONDITIONS

(The conditions, except conditions 3, 4, 5, 7, 8, 9, 10, 11 and 12, apply to all coverage's. Conditions 3, 4, 5, 7, 8, 9, 10, 11 and 12, apply only to the coverage noted there under.)

1. Premium.--The premium bases and rates for the hazards described in the declarations are stated therein. Premium bases and rates for hazards not so described are those applicable in accordance with the manuals in use by the company.

The term "contract cost" means the total cost of all work described in Item 6 of the declarations.

The term "rental cost" means the total cost to the Contractor for rental of work trains or other railroad equipment, including the remuneration of all employees of the insured while operating, attached to or engaged thereon. The advance premium stated in the declarations is an estimated premium only. Upon termination of this policy the earned premium shall be computed in accordance with the company's rules, rates, rating plans, premiums and minimum premiums applicable to this insurance. If the earned premium thus computed exceeds the estimated advance premium paid, the company shall look to the Contractor specified in the declarations for any such excess; if less, the company shall return to the said Contractor the unearned portion paid.

In no event shall payment of premium be an obligation of the named insured.

2. Inspection.--The named insured shall make available to the company records of information relating to the subject matter of this insurance.

The company shall be permitted to inspect all operations in connection with the work described in Item 6 of the declarations.

3. Limits of Liability, Coverage A.--The limit of bodily injury liability stated in the declarations as applicable to "each person" is the limit of the company's liability for all damages, including damages for care and loss of services, arising out of bodily injury sustained by one person as the result of any one occurrence; the limit of such liability stated in the declarations as applicable to "each occurrence" is, subject to the above provision respecting each person, the total limit of the company's liability for all such damage arising out of bodily injury sustained by two or more persons as the result of any one occurrence.

4. Limits of Liability, Coverage's B and C.--The limit of liability under Coverages B and C stated in the declarations as applicable to "each occurrence" is the total limit of the company's liability for all damages and all loss under Coverage B and C combined arising out of physical injury to, destruction or loss of all property of one or more persons or organizations, including the loss of use of any property due to such injury or destruction under Coverage B, as the result of any one occurrence.

Subject to the above provision respecting "each occurrence," the limit of liability under Coverage's B and C stated in the declarations as "aggregate" is the total limit of the company's liability for all damages and all loss under Coverage's B and C combined arising out of physical injury to, destruction or loss of property, including the loss of use of any property due to such injury or destruction under Coverage B.

Under Coverage C, the limit of the company's liability for loss shall not exceed the actual cash value of the property, or if the loss is of a part thereof the actual cash value of such part, at time of loss, nor what it would then cost to repair or replace the property or such part thereof with other of like kind and quality.

5. Severalty of Interests, Coverage's A and B.-- The term "the insured" is used severally and not collectively, but the inclusion herein of more than one insured shall not operate to increase the limits of the company's liability.

6. Notice.--In the event of an occurrence or loss, written notice containing particulars sufficient to identify the insured and also reasonably obtainable information with respect to the time, place and circumstances thereof, and the names and addresses of the injured and of available witnesses, shall be given by or for the insured to the company or any of its authorized agents as soon as practicable. If claim is made or suit is brought against the insured, he shall immediately forward to the company every demand, notice, summons or other process received by him or his representative.

7. Assistance and Cooperation of the Insured, Coverage's A and B.--The insured shall cooperate with the company and, upon the company's request, attend hearings and trials and assist in making settlements, securing and giving evidence, obtaining the attendance of witnesses and in the conduct of suits. The insured shall not, except at his own cost, voluntarily make any payment, assume any obligation or incur any expense other than for such immediate medical and surgical relief to others as shall be imperative at the time of accident.

8. Action Against Company, Coverages A and B.--No action shall lie against the company unless, as a condition precedent thereto, the insured shall have fully complied with all the terms of this policy, nor until the amount of the insured's obligation to pay shall have been finally determined either by judgment against the insured after actual trial or by written agreement of the insured, the claimant and the company.

Any person or organization or the legal representative thereof who has secured such judgment or written agreement shall thereafter be entitled to recover under this policy to the extent of the insurance afforded by this policy. No person or organization shall have any right under this policy to join the company as a party to any action against the insured to determine the insured's liability. Bankruptcy or insolvency of the insured or of the insured's estate shall not relieve the company of any of its obligations hereunder.

Coverage C.--No action shall lie against the company unless, as a condition precedent thereto, there shall have been full compliance with all the terms of this policy nor until 30 days after proof of loss is filed and the amount of loss is determined as provided in this policy.

9. Insured's Duties in Event of Loss, Coverage C.--In the event of loss the insured shall:

- (a) protect the property, whether or not the loss is covered by this policy, and any further loss due to the insured's failure to protect shall not be recoverable under this policy; reasonable expenses incurred in affording such protection shall be deemed incurred at the company's request;
- (b) file with the company, as soon as practicable after loss, his sworn proof of loss in such form and including such information as the company may reasonably require and shall, upon the company's request, exhibit the damaged property.

10. Appraisal, Coverage C.--If the insured and the company fail to agree as to the amount of loss, either may, within 60 days after the proof of loss is filed, demand an appraisal of the loss. In such event the insured and the company shall each select a competent appraiser, and the appraisers shall select a competent and disinterested umpire. The appraisers shall state separately the actual cash value and the amount of loss and failing to agree shall submit their differences to the umpire. An award in writing of any two shall determine the amount of loss. The insured and the company shall each pay his chosen appraiser and shall bear equally the other expenses of the appraisal and umpire.

The company shall not be held to have waived any of its rights by any act relating to appraisal.

11. Payment of Loss, Coverage C.--The company may pay for the loss in money but there shall be no abandonment of the damaged property to the company.

12. No Benefit to Bailee, Coverage C.--The insurance afforded by this policy shall not inure directly or indirectly to the benefit of any carrier or bailee, other than the named insured, liable for loss to the property.

13. Subrogation.--In the event of any payment under this policy, the company shall be subrogated to all the insured's rights of recovery therefor against any person or organization and the insured shall execute and deliver instruments and papers and do whatever else is necessary to secure such rights. The insured shall do nothing after loss to prejudice such rights.

14. Application of Insurance.--The insurance afforded by this policy is primary insurance.

15. Three Year Policy.--A policy period of three years is comprised of three consecutive annual periods. Computation and adjustment of earned premium shall be made at the end of each annual period. Aggregate limits of liability as stated in this policy shall apply separately to each annual period.

16. Changes.--Notice to any agent or knowledge possessed by any agent or by any other person shall not effect a waiver or a change in any part of this policy or stop the company from asserting any right under the terms of this policy; nor shall the terms of this policy be waived or changed, except by endorsement issued to form a part of this policy.

17. Assignment.--Assignment of interest under this policy shall not bind the company until its consent is endorsed hereon.

18. Cancellation.--This policy may be canceled by the named insured by mailing to the company written notice stating when thereafter the cancellation shall be effective. This policy may be canceled by the company by mailing to the named insured, Contractor and governmental authority at the respective addresses shown in this policy written notice stating when not less than 30 days thereafter such cancellation shall be effective. The mailing of notice as aforesaid shall be sufficient proof of notice. The effective date and hour of cancellation stated in the notice shall become the end of the policy period. Delivery of such written notice either by the named insured or by the company shall be equivalent to mailing.

If the named insured cancels, earned premium shall be computed in accordance with the customary short rate table and procedure. If the company cancels, earned premium shall be computed pro rata. Premium adjustment may be made either at the time cancellation is effected or as soon as practicable after cancellation becomes effective, but payment or tender of unearned premium is not a condition of cancellation.

19. Declaration.--By acceptance of this policy the named insured agrees that such statements in the declarations as are made by him are his agreements and representations, that this policy is issued in reliance upon the truth of such representations and that this policy embodies all agreements existing between himself and the company or any of its agents relating to this insurance.

In witness whereof, the _____ Insurance Company has caused this policy to be signed by its president and a secretary at _____, and counter-signed on the declaration page by a duly authorized agent of the company.

(Facsimile of Signature)

Secretary

(Facsimile of Signature)

President

CERTIFICATE OF INSURANCE

Exhibit "C"

This is to certify to:

- (1) Railroad Agreements Branch, MS #9-2/9G
 Division of Engineering Services
 California Department of Transportation
 1801 30th Street, Sacramento, California 95816

RAILROAD FILE NO.
PUC No. 001B-36.09-A
 Railroad Real Estate Folder 2026-11

- (2) and to the following Railroad Company

that such insurance as is afforded by the policy or policies described below for bodily injury liability and property damage liability is in full force and effect as of the date of this certificate and covers the following contractor as a named insured with respect to liability for damages arising out of operations performed by or for the named insured in connection with the contract or work described below.

1. Named Insured and Address

This is to certify that policies of insurance listed below have been issued to the insured named above and are in force at this time. Notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

2. Description of Work

Contract No. _____

<u>Coverage's</u>	<u>Policy Expiration Date</u>	<u>Limits of Liability Each Occurrence</u>	<u>Aggregate</u>
Contractor's Bodily Injury Liability and Property Damage Liability			
Umbrella or Excess Liability			

All of the coverages include coverage for the completed operations hazard, and X, C and U exposures.

Name of Insurance Company by Coverage

<u>Coverage's</u>	<u>Company</u>	<u>Policy Number</u>
<u>Bodily Injury Liability</u>		
<u>Property Damage Liability</u>		
<u>Umbrella or Excess Liability</u>		

4. The policy or policies described above will not be amended, altered, modified or cancelled until thirty (30) days after written notice thereof has been given by registered mail to the Railroad named as certificate holder in this certificate.

Certificate Date:

For

(Insurance Company)

By _____
(Authorized Agent or Representative)

State of California
Department of Transportation
DH-0S-A104(8-10-00)

EXHIBIT "A"

**TO
CALTRANS RIGHT OF ENTRY AGREEMENT**

Section 1. NOTICE OF COMMENCEMENT OF WORK - FLAGGING.

a. The Licensee agrees to notify the Railroad Representative at least 10 working days in advance of Licensee commencing its work and at least 10 working days in advance of proposed performance of any work by the Licensee in which any person or equipment will be within 25 feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within 25 feet of any track. No work of any kind shall be performed, and no person, equipment, machinery, tool(s), material(s), vehicle(s), or thing(s) shall be located, operated, placed, or stored within 25 feet of any of Railroad's track(s) at any time, for any reason, unless and until a Railroad flagman is provided to watch for trains. Upon receipt of such 10-day notice, the Railroad Representative will determine and inform the Licensee whether a flagman need be present and whether the Licensee need implement any special protective or safety measures. If flagging or other special protective or safety measures are performed by the Railroad, such services will be provided at Licensee's expense with the understanding that if the Railroad provides any flagging or other services, the Licensee shall not be relieved of any of its responsibilities or liabilities set forth herein. Licensee shall promptly pay to Railroad all charges connected with such services within 30 days after presentation of a bill therefor.

b. The rate of pay per hour for each person will be the prevailing hourly rate in effect for an eight hour day for the class of persons used during regularly assigned hours and overtime in accordance with Labor Agreements and Schedules in effect at the time the work is performed. In addition to the cost of such labor, a composite charge for vacation, holiday, health & welfare, supplemental sickness, Railroad Retirement & UC, supplemental pension, Empl. Liability & Property Damage and Administration will be included, computed on actual payroll. The composite charge will be the prevailing composite charge in effect on the day of execution of this agreement. One and one-half times the current hourly rate is paid for overtime, Saturdays and Sundays; two and one-half times current hourly rate for holidays. Wage rates are subject to change, at any time, by law or by agreement between the railroad and its employees, and may be retroactive as a result of negotiations or a ruling of an authorized Governmental Agency. Additional charges on labor are also subject to change. If the wage rate or additional charges are changed, the Licensee shall pay on the basis of the new rates and charges.

c. Reimbursement to the Railroad will be required covering the full eight hour day during which any flagman is furnished, unless he can be assigned to other Railroad work during a portion of such day, in which event reimbursement will not be required for the portion of the day during which the flagman is engaged in other Railroad work. Reimbursement will also be required for any day not actually worked by said flagman following his assignment to work on the project for which the Railroad is required to pay the flagman and which could not reasonably be avoided by the Railroad Company by assignment of such flagman to other work, even though the Licensee may not be working during such time. When it becomes necessary for the Railroad to bulletin and assign an employee to a flagging position in compliance with union collective bargaining agreements, the Licensee must provide the Railroad a minimum of 5-days notice prior to the cessation of the need for a flagman. If 5-days notice of cessation is not given, the Licensee will still be required to pay flagging charges for the 5-day notice period required by union agreement to be given to the employee, even though flagging is not required for that period. An additional 10-days-notice must then be given to the Railroad if flagging services are needed again after such 5-day cessation notice has been given Railroad.

Section 2. LIMITATION AND SUBORDINATION OF RIGHTS GRANTED

a. The foregoing grant of right is subject and subordinate to the prior and continuing right and obligation of the Railroad to use and maintain its entire property including the right and power of the Railroad to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, roadways, signal, communication, fiber optics, or other wirelines, pipelines and other facilities upon, along or across any or all parts of its property, all or any of which may be reasonably done at any time or times by the Railroad without liability to the Licensee or to any other party for compensation or damages.

b. The foregoing grant is also subject to all outstanding superior rights (including those in favor of licensees and lessees of the Railroad's property, and others) and the right of the Railroad to renew and extend the same, and is made without covenant of title or for quiet enjoyment.

Section 3. NO INTERFERENCE WITH RAILROAD'S OPERATION.

No work performed by Licensee shall cause any unreasonable interference with the constant, continuous and uninterrupted use of the tracks, property and facilities of the Railroad its lessees, licensees or others, unless specifically permitted under this agreement, or specifically authorized in advance by the Railroad Representative. Nothing shall be done or suffered to be done by the Licensee at any time that would in any manner impair the safety thereof. When not in use, Licensee's machinery and materials shall be kept at least 50 feet from the centerline of Railroad's nearest track, and there shall be no vehicular crossings of Railroad's tracks except at existing open public crossings.

Section 4. MECHANIC'S LIENS.

The Licensee shall pay in full all persons who perform labor or provide materials for the work to be performed by Licensee. The Licensee shall not create, permit or suffer any mechanic's or materialmen's liens of any kind or nature to be created or enforced against any property of the Railroad for any such work performed. The Licensee shall indemnify and hold harmless the Railroad from and against any and all liens, claims, demands, costs or expenses of whatsoever nature in any way connected with or growing out of such work done, labor performed, or materials furnished.

Section 5. PROTECTION OF FIBER OPTIC CABLE SYSTEMS.

a. Fiber optic cable systems may be buried on the Railroad's property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. Licensee shall telephone the Railroad at 1-800-336-9193 (a 24-hour number) to determine if fiber optic cable is buried anywhere on the Railroad's premises to be used by the Licensee. If it is, Licensee shall telephone the telecommunications company(ies) involved, arrange for a cable locator, make arrangements for relocation or other protection of the fiber optic cable, and shall commence no work on the right of way until all such protection or relocation has been accomplished.

b. In addition to other indemnity provisions in this Agreement, the Licensee shall, pursuant to Cal. Gov. Code §14662.5, indemnify and hold the Railroad harmless from and against all costs, liability and expense whatsoever (including, without limitation, attorneys' fees, court costs and expenses) arising out of any act or omission of the Licensee, its contractor, agents and/or employees, that proximately causes or contributes to (1) any damage to or destruction of any telecommunications system on Railroad's property, and/or (2) any injury to or death of any person employed by or on behalf of any telecommunications company, and/or its contractors, agents and/or employees, on Railroad's property. Licensee shall not have or seek recourse against Railroad for any claim or cause of action for alleged loss of profits or revenue or loss of service or other consequential damage to a telecommunication company using Railroad's property or a customer or user of services of the fiber optic cable on Railroad's property.

Section 6. COMPLIANCE WITH LAWS.

In the prosecution of the work covered by this agreement, the Licensee shall secure any and all necessary permits and shall comply with all applicable federal, state and local laws, regulations and enactments affecting the work. The Licensee shall use only such methods as are consistent with safety, both as concerns the Licensee, the Licensee's agents and employees, the officers, agents, employees and property of the Railroad and the public in general. The Licensee (without limiting the generality of the foregoing) shall comply with all applicable state and federal occupational safety and health acts and regulations. All Federal Railroad Administration regulations shall be followed when work is performed on the Railroad's property. If any failure by the Licensee to comply with any such laws, regulations, and enactments, shall result in any fine, penalty, cost or charge being assessed, imposed or charged against the Railroad, the Licensee shall reimburse and indemnify the Railroad for any such fine, penalty, cost, or charge, including without limitation attorneys' fees, court costs and expenses. The Licensee further agrees in the event of any such action, upon notice thereof being provided by the Railroad, to defend such action free of cost, charge, or expense to the Railroad.

Section 7. SAFETY INSTRUCTIONS.

Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of the Work pursuant to this agreement. As reinforcement and in furtherance of overall safety measures to be observed by the Licensee (and not by way of limitation), the following special safety rules shall be followed:

a. The Licensee shall keep the job site free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job. The Licensee shall have proper first aid supplies available on the job site so that prompt first aid services can be provided to any person that may be injured on the job site. The Licensee shall promptly notify the Railroad of any U.S. Occupational Safety and Health Administration reportable injuries occurring to any person that may arise during the work performed on the job site. The Licensee shall have a non-delegable duty to control its employees while they are on the job site or any other property of the Railroad to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug, narcotic or other substance that may inhibit the safe performance of work by the employee.

b. The employees of the Licensee shall be suitably dressed to perform their duties safely and in a manner that will not interfere with their vision, hearing or free use of their hands or feet. Only waist length shirts with sleeves and trousers that cover the entire leg are to be worn. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching. The employees should wear sturdy and protective work boots and at least the following protective equipment:

(1) Protective head gear that meets American National Standard-Z89.1-latest revision. It is suggested that all hardhats be affixed with Licensee's, contractor's or subcontractor's company logo or name.

(2) Eye protection that meets American National Standard for occupational and educational eye and face protection, Z87.1-latest revision. Additional eye protection must be provided to meet specific job situations such as welding, grinding, burning, etc.; and

(3) Hearing protection which affords enough attenuation to give protection from noise levels that will be occurring on the job site.

c. All heavy equipment provided or leased by the Licensee shall be equipped with audible back-up warning devices. If in the opinion of the Railroad Representative any of Licensee's or any of its contractor's or subcontractor's equipment is unsafe for use on the Railroad's right-of-way, the Licensee, at the request of the Railroad Representative, shall remove such equipment from the Railroad's right-of-way.

Section 8. INDEMNITY.

a. As used in this Section, "Railroad" includes other railroad companies using the Railroad's property at or near the location of the Licensee's installation and their officers, agents, and employees; "Loss" includes loss, damage, claims, demands, actions, causes of action, penalties, costs, and expenses of whatsoever nature, including court costs and attorneys' fees, which may result from: (a) injury to or death of persons whomsoever (including the Railroad's officers, agents, and employees, the Licensee's officers, agents, and employees, as well as any other person); and/or (b) damage to or loss or destruction of property whatsoever (including Licensee's property, damage to the roadbed, tracks, equipment, or other property of the Railroad, or property in its care or custody).

b. As a major inducement and in consideration of the license and permission herein granted, the Licensee, pursuant to Cal. Gov. Code §14662.5, agrees to indemnify and hold harmless the Railroad from any Loss which is proximately caused in whole or in part by the work performed under this agreement, a breach of the agreement or the failure to observe the health and safety provisions herein, or any activity, omission or negligence arising out of performance or nonperformance of this agreement regardless of whether contributed to in part by the negligence or fault of Railroad. However, the Licensee shall not indemnify the Railroad when the Loss is caused by the sole negligence or willful misconduct of the Railroad.

c. Any liability of either party hereunder to one of its employees under any Workers' Compensation Act or the Federal Employers' Liability Act shall not be questioned or in any way challenged by the other party, nor shall any jury or court findings resulting from any employee's suit against either party pursuant to any such Act(s) be relied upon or used by either party in any attempt to assert common law liability against the other.

Section 9. RESTORATION OF PROPERTY.

In the event the Railroad authorizes the Licensee to take down any fence of the Railroad or in any manner move or disturb any of the other property of the Railroad in connection with the work to be performed by Licensee, then in that event the Licensee shall, as soon as possible and at Licensee's sole expense, restore such fence and other property to the same condition as the same were in before such fence was taken down or such other property was moved or disturbed. The Licensee shall remove all of Licensee's tools, equipment and materials from Railroad's property promptly upon completion of the work, restoring Railroad's property to the same state and condition as when Licensee entered thereon.

Section 10. WAIVER OF BREACH.

Waiver by the Railroad of the breach of any condition, covenant or agreement herein contained to be kept, observed and performed by the Licensee shall in no way impair the right of the Railroad to avail itself of any remedy for any subsequent breach thereof.

Section 11. ASSIGNMENT - SUBCONTRACTING.

Except as otherwise provided herein, the Licensee shall not assign, sublet or subcontract this agreement, or any interest therein, without the written consent of the Railroad and any attempt to so assign, sublet or subcontract without the written consent of the Railroad shall be void. If the Railroad gives the Licensee permission to subcontract all or any portion of the work herein described, the Licensee is and shall remain responsible for all work of contractors and subcontractors, and all work of contractors and subcontractors shall be governed by the terms of this agreement.

EXHIBIT A-1

UNION PACIFIC RAILROAD CONTRACT INSURANCE REQUIREMENTS Caltrans Right Of Entry Agreement

Caltrans_ Contractor shall, at its sole cost and expense, procure and maintain during the life of this Agreement the following insurance coverage:

(a) **General Liability** insurance providing bodily injury including death, personal injury and property damage coverage with a combined single limit of at least \$2,000,000 each occurrence or claim and an aggregate limit of at least \$4,000,000. This insurance shall contain broad form contractual liability with a separate general aggregate for the project (ISO Form CG 25 03 or equivalent). Exclusions for explosion, collapse and underground hazard shall be removed. Coverage purchased on a claims made form shall provide for at least a two (2) year extended reporting or discovery period if (a) the coverage changes from a claims made form to an occurrence form, (b) there is a lapse/cancellation of coverage, or (c) the succeeding claims made policy retroactive date is different for the expiring policy.

The fact that insurance is obtained by Contractor shall not be deemed to release or diminish the liability of Contractor, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad shall not be limited by the amount of the required insurance coverage.

(b) **Automobile Liability** insurance providing bodily injury and property damage coverage with a combined single limit of at least \$2,000,000 each occurrence or claim. This insurance shall cover all motor vehicles including hired and non-owned, and mobile equipment if excluded from coverage under the general public liability insurance.

(c) **Workers' Compensation** insurance covering Contractor's statutory liability under the workers' compensation laws of the state(s) affected by this Agreement, and Employers' Liability. If such insurance will not cover the liability of Contractor in states that require participation in state workers' compensation fund, Contractor shall comply with the laws of such states. If Contractor is self-insured, evidence of state approval must be provided.

(d) **Railroad Protective Liability** insurance naming the Railroad as the insured with a combined single limit of \$2,000,000 per occurrence with a \$6,000,000 aggregate. The policy shall be broad form coverage for "Physical Damage to Property" (ISO Form CG 00 35 or equivalent) and include pollution arising out of fuels and lubricants brought to the job site (ISO Form CG 28 31 or equivalent). A binder of insurance for Railroad Protective Liability must be submitted to the Railroad and the original policy or a certified duplicate original policy must be forwarded to the Railroad when available.

Contractor and its insurers shall endorse the required insurance policy(ies) to waive their right of subrogation against Railroad. Contractor and its insurers also waive their right of subrogation against Railroad for loss of its owned or leased property or property under its care, custody and control. Contractor's insurance shall be primary with respect to any insurance carried by Railroad. The policy(ies) required under (a) and (b) above shall provide severability of interests and shall name Railroad as an additional insured.

Prior to commencing the Work, Contractor shall furnish to Railroad certificate(s) of insurance evidencing the required coverage and endorsements and upon request, a certified duplicate original of any required policy. The certificate(s) shall contain a provision that obligates the insurance company(ies) issuing such policy(ies) to notify Railroad in writing of any material alteration including any change in the retroactive date in any "claims-made" policies or substantial reduction of aggregate limits, if such limits apply, or any cancellation at least thirty (30) days prior thereto.

The insurance policy(ies) shall be written by a reputable insurance company(ies) acceptable to Railroad or with a current Best's Insurance Guide Rating of B and Class VII or better, and authorized to do business in the state(s) in which the Work is located.

Contractor **WARRANTS** that this Agreement has been thoroughly reviewed by Contractor's insurance agent(s)/broker(s), who has been instructed by Contractor to procure the insurance coverage required by this Agreement.

If Contractor fails to procure and maintain insurance as required, Railroad may elect to do so at the cost of Contractor.

CONTRACTOR'S ENDORSEMENT

A. As a condition to entering upon Railroad's right-of-way to perform Work pursuant to this agreement, Licensee's contractor, _____ whose address is _____ (hereinafter "Contractor"), agrees to comply with and be bound by all the terms and provisions of this agreement relating to the Work to be performed and the insurance requirements set forth in Section 13 of Contract Special Provisions. Contractor further acknowledges and agrees that the reference to Cal. Gov. Code §14662.5 in Sections 5.b) and 8.b) of to this agreement does not apply to Contractor and in no way limits the indemnities set forth in those provisions, to which Contractor agrees to be bound.

B. Before the Contractor commences any Work, the Contractor will provide the Railroad with (i) a binder of insurance for the Railroad Protective Liability Insurance described in paragraph (d) of Exhibit A-1, hereto attached, and the original policy, or a certified duplicate original policy when available, and (ii) a certificate issued by its insurance carrier providing the other insurance coverage required pursuant to Section 13 of Contract Special Provisions in a policy or policies which contains the following type endorsement:

UNION PACIFIC RAILROAD COMPANY is named as an additional insured with respect to all liabilities arising out of Insured's performance of Work on behalf of the State.

C. All insurance correspondence, binders or originals shall be directed to:

Folder No. 2026-11
Union Pacific Railroad Company
Director - Contracts
Attn: Paul Farrell
1416 Dodge Street, WP001
Omaha, Nebraska 68179

D. Please note that fiber optic cable may be buried on Railroad's property. **Prior to commencing any work, Contractor agrees to contact Railroad's Telecommunications Operation Center at 1-800-336-9193 to determine if any fiber optic cable is located on Railroad's property on or near the location where the work is to be performed.** If there is, Contractor must comply with the terms and conditions of Section 5 of before commencing any work on Railroad's property.

E. **Contractor agrees to also contact Railroad's Manager-Track Maintenance at _____** at least ten (10) days prior to working on Railroad's property in order for Railroad to coordinate the Contractor's work with Railroad's operations and to make arrangements for flagging protection (if applicable).

CONTRACTOR (print name on above line)

By: _____
(sign on above line)

Title: _____

ENGINEER'S ESTIMATE

04-006054

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
41 (S)	023731	CLEAN 1650 MM DRAINAGE FACILITY	EA	1		
42	023732	CLEAN 840 MM DRAINAGE FACILITY	EA	1		
43	150820	REMOVE INLET	EA	4		
44	150821	REMOVE HEADWALL	EA	2		
45	150857	REMOVE ASPHALT CONCRETE SURFACING	M3	810		
46	150860	REMOVE BASE AND SURFACING	M3	540		
47	150870	REMOVE CONCRETE DECK SURFACE	M2	450		
48	151272	SALVAGE METAL BEAM GUARD RAILING	M	140		
49	152372	RELOCATE CONCRETE BARRIER (TYPE K)	M	880		
50	152390	RELOCATE ROADSIDE SIGN	EA	3		
51	152430	ADJUST INLET	EA	1		
52	152438	ADJUST FRAME AND COVER TO GRADE	EA	12		
53 (S)	153101	PLANE ASPHALT CONCRETE PAVEMENT	M2	860		
54	153210	REMOVE CONCRETE	M3	9		
55	155003	CAP INLET	EA	2		
56	157560	BRIDGE REMOVAL (PORTION)	LS	LUMP SUM	LUMP SUM	
57	158100	SALVAGE CRASH CUSHION	EA	1		
58	160101	CLEARING AND GRUBBING	LS	LUMP SUM	LUMP SUM	
59	190101	ROADWAY EXCAVATION	M3	54 100		
60	023733	ROADWAY EXCAVATION (SLAG AND CINDER)	M3	23		

ENGINEER'S ESTIMATE

04-006054

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
61	023734	ROADWAY EXCAVATION (HAZARDOUS)	M3	270		
62	190110	LEAD COMPLIANCE PLAN	LS	LUMP SUM	LUMP SUM	
63 (F)	192003	STRUCTURE EXCAVATION (BRIDGE)	M3	2840		
64 (F)	192023	STRUCTURE EXCAVATION (TYPE H)	M3	204		
65 (F)	192037	STRUCTURE EXCAVATION (RETAINING WALL)	M3	1786		
66 (F)	192055	STRUCTURE EXCAVATION (SOIL NAIL WALL)	M3	160		
67 (F)	193003	STRUCTURE BACKFILL (BRIDGE)	M3	1600		
68 (F)	193013	STRUCTURE BACKFILL (RETAINING WALL)	M3	2371		
69	023735	STRUCTURE EXCAVATION (SIGN FOUNDATION)	M3	22		
70	023736	STRUCTURE BACKFILL (SIGN FOUNDATION)	M3	16		
71 (F)	193028	STRUCTURE BACKFILL (SOIL NAIL WALL)	M3	20		
72	193031	PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	M3	140		
73	193114	SAND BACKFILL	M3	11		
74	194001	DITCH EXCAVATION	M3	1080		
75	023737	DITCH EXCAVATION (HAZARDOUS)	M3	200		
76	023738	DRAINAGE EXCAVATION (HAZARDOUS)	M3	49		
77 (S)	197060	SOIL NAIL ASSEMBLY	M	830		
78	023739	IMPORTED BORROW (LIGHTWEIGHT AGGREGATE)	M3	120		
79	198200	SUBGRADE ENHANCEMENT FABRIC	M2	4100		
80	023740	GEOMEMBRANE (TYPE B)	M2	11 600		

ENGINEER'S ESTIMATE

04-006054

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
81	023741	LIGHTWEIGHT EMBANKMENT MATERIAL (CELLULAR CONCRETE, 4.7 KN/M3)	M3	29 700		
82	023742	LIGHTWEIGHT EMBANKMENT MATERIAL (CELLULAR CONCRETE, 6.3 KN/M3)	M3	18 400		
83 (S)	023743	LIGHTWEIGHT EMBANKMENT MATERIAL (EPS BLOCK)	M3	11 700		
84	023744	SHORING	M	400		
85	023745	GEOMEMBRANE (TYPE A- GASOLINE RESISTANT)	M2	9170		
86	023746	GEOTEXTILE CUSHION	M2	3510		
87 (S)	023747	EROSION CONTROL (NETTING)	M2	6690		
88 (S)	203003	STRAW (EROSION CONTROL)	TONN	6.3		
89 (S)	203014	FIBER (EROSION CONTROL)	KG	2090		
90 (S)	203021	FIBER ROLLS	M	2400		
91 (S)	203024	COMPOST (EROSION CONTROL)	KG	6340		
92 (S)	203026	MOVE-IN/MOVE-OUT (EROSION CONTROL)	EA	12		
93 (S)	023748	PURE LIVE SEED (TYPE 1)(EROSION CONTROL)	KG	110		
94 (S)	023749	PURE LIVE SEED (TYPE 2)(EROSION CONTROL)	KG	37		
95 (S)	203056	COMMERCIAL FERTILIZER (EROSION CONTROL)	KG	130		
96 (S)	203061	STABILIZING EMULSION (EROSION CONTROL)	KG	480		
97	048965	NPS 12 SUPPLY LINE (BRIDGE)	M	204		
98	250401	CLASS 4 AGGREGATE SUBBASE	M3	1470		
99	260301	CLASS 3 AGGREGATE BASE	M3	1200		
100	290211	ASPHALT TREATED PERMEABLE BASE	M3	740		

ENGINEER'S ESTIMATE

04-006054

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
101	390155	ASPHALT CONCRETE (TYPE A)	TONN	17 500		
102	390165	ASPHALT CONCRETE (OPEN GRADED)	TONN	370		
103	394002	PLACE ASPHALT CONCRETE (MISCELLANEOUS AREA)	M2	130		
104	394040	PLACE ASPHALT CONCRETE DIKE (TYPE A)	M	470		
105	397001	ASPHALTIC EMULSION (PAINT BINDER)	TONN	4		
106	023750	PORTLAND CEMENT CONCRETE SLAB	M3	470		
107	048966	2.8 M CAST-IN-DRILLED-HOLE CONCRETE PILING	M	560		
108 (S)	048967	2.1 M CAST-IN-DRILLED-HOLE CONCRETE PILING (ROCK SOCKET)	M	152		
109 (S)	048968	2.4 M CAST-IN-DRILLED-HOLE CONCRETE PILING (ROCK SOCKET)	M	404		
110 (S)	048969	2.8 M PERMANENT STEEL CASING	M	561		
111 (S)	048970	ISOLATION CASING	KG	20 000		
112	023751	FURNISH PILING (CLASS 400C) (SIGN FOUNDATION)	M	54		
113	023752	DRIVE PILE (CLASS 400C) (SIGN FOUNDATION)	EA	4		
114	023753	CUTOFF WALL (STEEL SHEET PILING)	M2	3280		
115	499030	FURNISH CAST-IN-STEEL-SHELL CONCRETE PILING (610 MM)	M	4120		
116 (S)	499031	DRIVE CAST-IN-STEEL-SHELL CONCRETE PILE (610 MM)	EA	219		
117	499036	FURNISH CAST-IN-STEEL-SHELL CONCRETE PILING (762 MM)	M	376		
118 (S)	499037	DRIVE CAST-IN-STEEL-SHELL CONCRETE PILE (762 MM)	EA	20		
119 (S)	048971	PRESTRESSING CONCRETE	LS	LUMP SUM	LUMP SUM	
120 (F)	510051	STRUCTURAL CONCRETE, BRIDGE FOOTING	M3	1040		

ENGINEER'S ESTIMATE**04-006054**

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
121 (F)	510053	STRUCTURAL CONCRETE, BRIDGE	M3	10 430		
122 (F)	510060	STRUCTURAL CONCRETE, RETAINING WALL	M3	1937		
123 (F)	510086	STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	M3	360		
124 (F)	510502	MINOR CONCRETE (MINOR STRUCTURE)	M3	28.1		
125	510507	MINOR CONCRETE (SIGN FOUNDATION)	M3	6		
126	510522	MINOR CONCRETE (PIPE COVER)	M3	3		
127	510526	MINOR CONCRETE (BACKFILL)	M3	140		
128 (F)	511064	FRACTURED RIB TEXTURE	M2	410		
129	048972	DRILL AND BOND ANCHOR BOLT	M	92		
130 (S)	048973	FURNISH PRECAST PRETENSIONED CONCRETE BULB-TEE GIRDER (5 M - 10 M)	EA	12		
131 (S)	048974	FURNISH PRECAST PRETENSIONED CONCRETE BULB-TEE GIRDER (30 M - 35 M)	EA	1		
132 (S)	048975	FURNISH PRECAST PRETENSIONED CONCRETE BULB-TEE GIRDER (35 M - 40 M)	EA	8		
133 (S)	048976	FURNISH PRECAST PRETENSIONED CONCRETE BULB-TEE GIRDER (40 M - 45 M)	EA	3		
134 (S)	048977	FURNISH PRECAST PRETENSIONED CONCRETE BULB-TEE GIRDER (45 M - 50 M)	EA	8		
135 (S)	048978	FURNISH PRECAST PRETENSIONED CONCRETE BULB-TEE GIRDER (50 M - 55 M)	EA	17		
136 (S)	048979	FURNISH PRECAST PRETENSIONED CONCRETE BULB-TEE GIRDER (55 M - 60 M)	EA	20		
137 (S)	048980	FURNISH PRECAST PRETENSIONED CONCRETE BULB-TEE GIRDER (60 M - 65 M)	EA	3		
138 (S)	048981	ERECT PRECAST PRETENSIONED CONCRETE GIRDER	EA	72		
139	515020	REFINISH BRIDGE DECK	M2	41		
140 (S)	518051	PTFE SPHERICAL BEARING	EA	12		

ENGINEER'S ESTIMATE**04-006054**

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
141 (S)	048982	SEISMIC ISOLATION BEARING	EA	22		
142 (S)	519117	JOINT SEAL (MR 30 MM)	M	97		
143 (S)	519129	JOINT SEAL ASSEMBLY (MR 101 MM - 160 MM)	M	30		
144 (S)	519130	JOINT SEAL ASSEMBLY (MR 161 MM - 240 MM)	M	41		
145 (S-F)	023754	BAR REINFORCING STEEL (SIGN FOUNDATION)	KG	669		
146 (S-F)	520102	BAR REINFORCING STEEL (BRIDGE)	KG	2 919 200		
147 (S-F)	520103	BAR REINFORCING STEEL (RETAINING WALL)	KG	168 743		
148 (S-F)	520120	HEADED BAR REINFORCEMENT	EA	38 000		
149 (F)	530100	SHOTCRETE	M3	26		
150 (S-F)	550101	STRUCTURAL STEEL	KG	89 300		
151 (F)	560218	FURNISH SIGN STRUCTURE (TRUSS)	KG	40 402		
152 (S-F)	560219	INSTALL SIGN STRUCTURE (TRUSS)	KG	40 402		
153 (S)	561009	920 MM CAST-IN-DRILLED-HOLE CONCRETE PILE (SIGN FOUNDATION)	M	6.5		
154	023756	1524 MM CAST-IN-DRILLED-HOLE CONCRETE PILE (SIGN FOUNDATION)	M	7		
155	566011	ROADSIDE SIGN - ONE POST	EA	18		
156	566012	ROADSIDE SIGN - TWO POST	EA	2		
157	568001	INSTALL SIGN (STRAP AND SADDLE BRACKET METHOD)	EA	5		
158	BLANK					
159	620910	450 MM ALTERNATIVE PIPE CULVERT (TYPE A)	M	10		
160	620911	450 MM ALTERNATIVE PIPE CULVERT (TYPE B)	M	28		

ENGINEER'S ESTIMATE

04-006054

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
181	729010	ROCK SLOPE PROTECTION FABRIC	M2	33		
182	731502	MINOR CONCRETE (MISCELLANEOUS CONSTRUCTION)	M3	10		
183 (F)	731517	MINOR CONCRETE (GUTTER)	M	120		
184 (S-F)	750001	MISCELLANEOUS IRON AND STEEL	KG	2328		
185 (S-F)	750496	MISCELLANEOUS METAL (RESTRAINER - PIPE TYPE)	KG	2610		
186 (S-F)	750501	MISCELLANEOUS METAL (BRIDGE)	KG	31 660		
187 (S-F)	800381	CHAIN LINK FENCE (TYPE CL-0.9)	M	120		
188 (S)	800382	CHAIN LINK FENCE (TYPE CL-0.9, VINYL-CLAD)	M	290		
189 (S)	800391	CHAIN LINK FENCE (TYPE CL-1.8)	M	340		
190	BLANK					
191 (S)	802592	2.4 M CHAIN LINK GATE (TYPE CL-1.8)	EA	2		
192	810116	SURVEY MONUMENT (TYPE D)	EA	10		
193	820134	OBJECT MARKER (TYPE P)	EA	5		
194	820151	OBJECT MARKER (TYPE L-1)	EA	20		
195 (S)	832003	METAL BEAM GUARD RAILING (WOOD POST)	M	320		
196	833080	CONCRETE BARRIER (TYPE K)	M	1800		
197 (S)	839565	TERMINAL SYSTEM (TYPE SRT)	EA	10		
198 (S)	839568	TERMINAL ANCHOR ASSEMBLY (TYPE SFT)	EA	3		
199 (S)	839591	CRASH CUSHION, SAND FILLED	EA	3		
200 (S)	839603	CRASH CUSHION (ADIEM)	EA	2		

ENGINEER'S ESTIMATE**04-006054**

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
201	839701	CONCRETE BARRIER (TYPE 60)	M	79		
202 (F)	839704	CONCRETE BARRIER (TYPE 60D)	M	120		
203 (F)	839725	CONCRETE BARRIER (TYPE 736)	M	897		
204 (F)	839726	CONCRETE BARRIER (TYPE 736A)	M	277		
205	840501	THERMOPLASTIC TRAFFIC STRIPE	M	3440		
206	840515	THERMOPLASTIC PAVEMENT MARKING	M2	84		
207 (S)	840656	PAINT TRAFFIC STRIPE (2-COAT)	M	12 100		
208 (S)	840666	PAINT PAVEMENT MARKING (2-COAT)	M2	60		
209 (S)	850101	PAVEMENT MARKER (NON-REFLECTIVE)	EA	1700		
210 (S)	850111	PAVEMENT MARKER (RETROREFLECTIVE)	EA	1360		
211 (S)	860201	SIGNAL AND LIGHTING	LS	LUMP SUM	LUMP SUM	
212 (S)	860298	SIGNAL AND LIGHTING (STAGE CONSTRUCTION)	LS	LUMP SUM	LUMP SUM	
213 (S)	860415	LIGHTING (STAGE CONSTRUCTION)	LS	LUMP SUM	LUMP SUM	
214 (S)	860460	LIGHTING AND SIGN ILLUMINATION	LS	LUMP SUM	LUMP SUM	
215 (S)	023763	TRAFFIC OPERATIONS SYSTEM	LS	LUMP SUM	LUMP SUM	
216	BLANK					
217	024820	RELOCATE CATHODIC PROTECTION (RECTIFIER)	LS	LUMP SUM	LUMP SUM	
218	024281	SEWER LINE VIDEO SURVEY	EA	2		
219	024282	SEWER EXCAVATION (CLASS II)	M3	222		
220	999990	MOBILIZATION	LS	LUMP SUM	LUMP SUM	

TOTAL BID: _____